THE UNIVERSITY OF CHICAGO

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VOLUME LXI

THE UNIVERSITY OF CHICAGO
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EXCAVATIONS IN THE PLAIN OF ANTIOCH

I

THE EARLIER ASSEMBLAGES PHASES A-J

BY ROBERT J. BRAIDWOOD and LINDA S. BRAIDWOOD

WITH APPENDIXES BY JOAN CROWFOOT PAYNE AND HANS HELBAEK AND
TECHNICAL NOTES BY FREDERICK R. MATSON AND OTHER SPECIALISTS

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To the three men who
far more than any others created both the physical
and intellectual conditions and the stimuli
on which this reporting depends

HENRI FRANKFORT†
CALVIN WELLS McEWAN†
HENRI SEYRIG

PREFACE

THE Syrian-Hittite Expedition was activated in 1931 by James Henry Breasted, then Director of the Oriental Institute of the University of Chicago. In his *The Oriental Institute* (1933), Breasted gave his reasons for locating the expedition in the ʿAmuq, the Plain of Antioch or sanjak of Alexandretta, in what was then northwestern Syria. I have sketched this reasoning briefly in the General Introduction (p. 1).

Breasted's account also names the early personnel of the expedition, under the acting directorships of Richard A. Martin (1931/32) and Claude Prost (1932/33). The first full director, Calvin Wells McEwan, arrived in September, 1933. His staff consisted of the following members:

Richard C. Haines (1932–36)
M. and Mme. A. Walter (1932–34)
Robert J. Braidwood (1933–38)
Arthur E. Pierson (1933–36)
William Henry Noble (1933–35)
Elizabeth McEwan (1934–38)
John Dennison (1935/36)
Linda S. Braidwood (1937/38)
Abdulla Said Osman al-Sudani (1932–38)

During the spring months of the years 1934, 1935, and 1936, our personnel was enlarged by some of the members of the Oriental Institute's Iraq Expedition. Hamilton D. Darby, Harold D. Hill, Thorkild and Rigmor Jacobsen, and Seton Lloyd all put in good service during the the spring digging in those years.

Our work in the ʿAmuq was essentially completed before the sanjak of Alexandretta became formally Turkish territory in 1938. I trust my Turkish colleagues will excuse my lapses in referring to our work in Syria. It was Syria when the work was done.

The days of the Syrian Expedition were halcyon days. We were all young and we made mistakes, but we learned as we worked and the work was fascinating. McEwan had the wonderful faculty of being able to judge our potential capabilities, of putting us to the jobs that suited us best, and of keeping faith in our abilities to work things out in the best way. Furthermore, we came out of it all as good friends. No archeologists anywhere have ever been blessed with a more encouraging and co-operative governmental supervisory body. The Service des Antiquités of the Haut Commissariat de France under Henri Seyrig, with Daniel Schlumberger and Maurice Dunand as functionaries, administered a good antiquities law with strict fairness to the interests of the local museum, with understanding of a foreign expedition's problems, and with interest and enthusiasm for what we were doing. I am happy to say that these gentlemen have also remained our good friends.

The processing of the materials for publication began in Chicago following our return in 1938. The war, the general dispersal of the old staff, and McEwan's untimely death slowed publication. The descriptive portion of this report was essentially complete by 1947, but other circumstances slowed the schedule further. Gustavus F. Swift, Jr., has the manuscript on the pottery of the later phases at an advanced stage, and Richard C. Haines has made some progress in preparing the volume on the later architecture, during time gleaned from his normal duties as field director of the Joint Nippur Expedition.

Our active collaborators are acknowledged in the General Introduction. We are also particularly indebted to Edna Tulane (Mrs. Martin Wilmington) and Sue Richert (Mrs. Greer Allen) for the excellence of their draftsmanship and for the degree to which they entered into the spirit of the whole affair, as well as to Miss Eugenia Bernoff for faithful assistance in the typing of the manuscript and lists. We are very conscious of our debt to Mrs. Elizabeth B. Hauser

for doing far more than her duties as editor called for. And we cannot forget the long-suffering patience of three successive directors of the Oriental Institute: John A. Wilson, Thorkild Jacobsen, and Carl H. Kraeling.

Since this report is a joint venture, the division of labor should be indicated. Linda's direct authorship pertains to the descriptive portions on objects of stone, bone, and miscellaneous materials; I prepared the descriptions of the other categories of objects and of the operations, architecture, caches, and burials as well as the nonartifactual summaries. The same general principle obtains in the General Introduction. The interpretive section (chap. xiv) is from my own hand. In all cases where the pronoun "we" is used, however, the usage is meaningful, for there has been much discussion between us from the stage of planning to the execution of the report.

In planning and execution, we have done our best to favor the convenience of the culture historian rather than that of other field archeologists and ourselves. It would have been far simpler and much more conventional to present a catalogue for each category of material (from earliest to latest), stressing the typologies of the series. These were readily available in our field catalogue sheets and cards. Rather, however, our presentation stresses successive assemblages—the complexes of artifacts used by a succession of extinct cultures. We think these should be more generally meaningful than typological series for purposes of cultural interpretation.

We have purposely avoided both such Neo-Grecisms as "mesolithic," "neolithic," and "chalcolithic" and the metallic "age" terminologies. We believe these lead to more confusion than clarity. I have made our point of view on this matter clear on several occasions.[1]

Finally, I am quite conscious of the fact that the interpretive section is far more generalizing, impressionistic, and personal than exhaustive and detailed, because (1) I feel that the real meat of this report is in the descriptive section and (2) I have no great confidence in the order of completeness of the present archeological record in the area of concern as a basis for *conclusive* interpretation. I shall no doubt be scolded for being personal and impressionistic[2] rather than detailed and "trait-chasing." The point worries me little, since I am convinced that, however detailed a fabric of conclusions might now be made, it would need complete redoing as soon as more adequate exposures in the general Syro-Turkish corner are available. The present report provides a generally trustworthy outline of the artifactual traces of the cultural sequence of this area from about 5500 to 2000 B.C. For an elaboration of the details, more digging is required.

ROBERT J. BRAIDWOOD

CHICAGO
January 1958

[1] Most recently in Robert J. Braidwood and Charles A. Reed, "The achievement and early consequences of food-production: a consideration of the archeological and natural-historical evidence" (*Cold Spring Harbor Symposia on Quantitative Biology* XXII [1957] 19–31).

[2] I have been already (see James Mellaart's review of *The Aegean and the Near East: Studies Presented to Hetty Goldman*, ed. Saul S. Weinberg [Locust Valley, N.Y., 1956], in the *Antiquaries Journal* XXXVII [1957] 234); evidently for some field archeologists the archeological vocabulary should be restricted to the jargon of archeological field engineering and of the "philately" of motifs on painted pottery. Communication with the science of anthropology, which concerns itself with culture—past and present—is evidently to be discouraged. I dissent!

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LIST OF ABBREVIATIONS

AAA	*Annals of archaeology and anthropology* (Liverpool, 1908–48).
AJA	*American journal of archaeology* (Baltimore etc., 1885——).
AJSL	*American journal of Semitic languages and literatures* (Chicago etc., 1884–1941).
JNES	*Journal of Near Eastern studies* (Chicago, 1942——).
OIP	Chicago. University. The Oriental Institute. Oriental Institute publications (Chicago, 1924——).
OIP XXII	OSTEN, HANS HENNING VON DER. Ancient oriental seals in the collection of Mr. Edward T. Newell (1934).
Survey	BRAIDWOOD, ROBERT J. Mounds in the Plain of Antioch (*OIP* XLVIII [1937]).

I

GENERAL INTRODUCTION

GENERAL BACKGROUND

THE Oriental Institute's "Syrian-Hittite Expedition" carried on operations in the ʿAmuq, the Plain of Antioch (Fig. 1), from 1932 to 1938.[1] As its original name implies, the expedition was expected to concern itself mainly with the archeology of the late, so-called "Hittite," kingdoms which flourished in northern Syria especially in the early first millennium B.C.[2] This interest was primary until almost the end of our operations, and it had two effects as regards our investigations of the earlier archeology of the area.

First, in the various attempts to find a site with monumental architecture of the "Syro-Hittite" period, excavations were made on six different mounds: Chatal Hüyük, Tell al-Judaidah, Tell Taʿyinat, Tulail al-Sharqi, Tell Taʿyinat al-Saghir, and Tell Kurcoğlu. Intentionally, or sometimes unintentionally, earlier horizons were exposed on three of these mounds (Chatal Hüyük, Tell al-Judaidah, and Tell Taʿyinat), so that earlier as well as later materials are available from more than one settlement in the ʿAmuq (Pl. 1). These materials from different sites serve both to amplify and to control one another and also show that the whole ʿAmuq area supported more or less uniform assemblages during the various horizons.

In the second place, with interest in the "Syro-Hittite" period paramount, operations of really adequate size for the full exploration of prehistoric horizons were not made. Actually, we did have interest in the prehistoric ranges, but removal of tons of strata of later horizons on the great mounds, so that the prehistoric depths might be reached in adequate areas, was not economically practicable. Unfortunately, excavations on low mounds known by means of the survey to have been abandoned after prehistoric times were not attempted until the last weeks of the final season. Operations on Tell Dhahab and Tell Kurdu were made at this late date, but lack of time and staff and an unsettled political situation restricted the size and detailed control which these operations really demanded.

The fact is, however, that really adequate areas have as yet seldom been exposed in prehistoric horizons in the Near East. Various of our operations in the earlier levels were larger than or compared favorably with areas opened in their respective horizons on other excavations; the same holds true for the bulks of materials controlled. In none of our horizons is the bulk of material sufficient in each category for an ideally objective quantitative treatment. On the other hand, the materials are in no case so restricted that erroneous conclusions are likely to follow, if all the qualifying factors concerning their context are taken into account. These qualifications will appear as the report proceeds.

The sequence established by our ʿAmuq operations gives evidence of being an essentially complete one from *ca.* A.D. 600 back to the range of the earliest known village cultures of the Syro-Cilician subarea. The contents of this volume will show an essentially complete sequence

[1] A detailed geographical and geological description of the ʿAmuq appears in Robert J. Braidwood, *Mounds in the Plain of Antioch: An Archaeological Survey* (*OIP* XLVIII [1937]). In that volume, which reports a survey of all the major mounds in the ʿAmuq, the various sites are located on maps reproduced at a scale of 1:100,000. In this present report, the survey volume will be referred to simply as *Survey*.

[2] See James H. Breasted, *The Oriental Institute* ("The University of Chicago Survey" XII [Chicago, 1933]) pp. 87–89, 301–9. In Professor Breasted's mind, the primary purpose of the expedition was to excavate Kunulua-Calneh, the capital of Hattina.

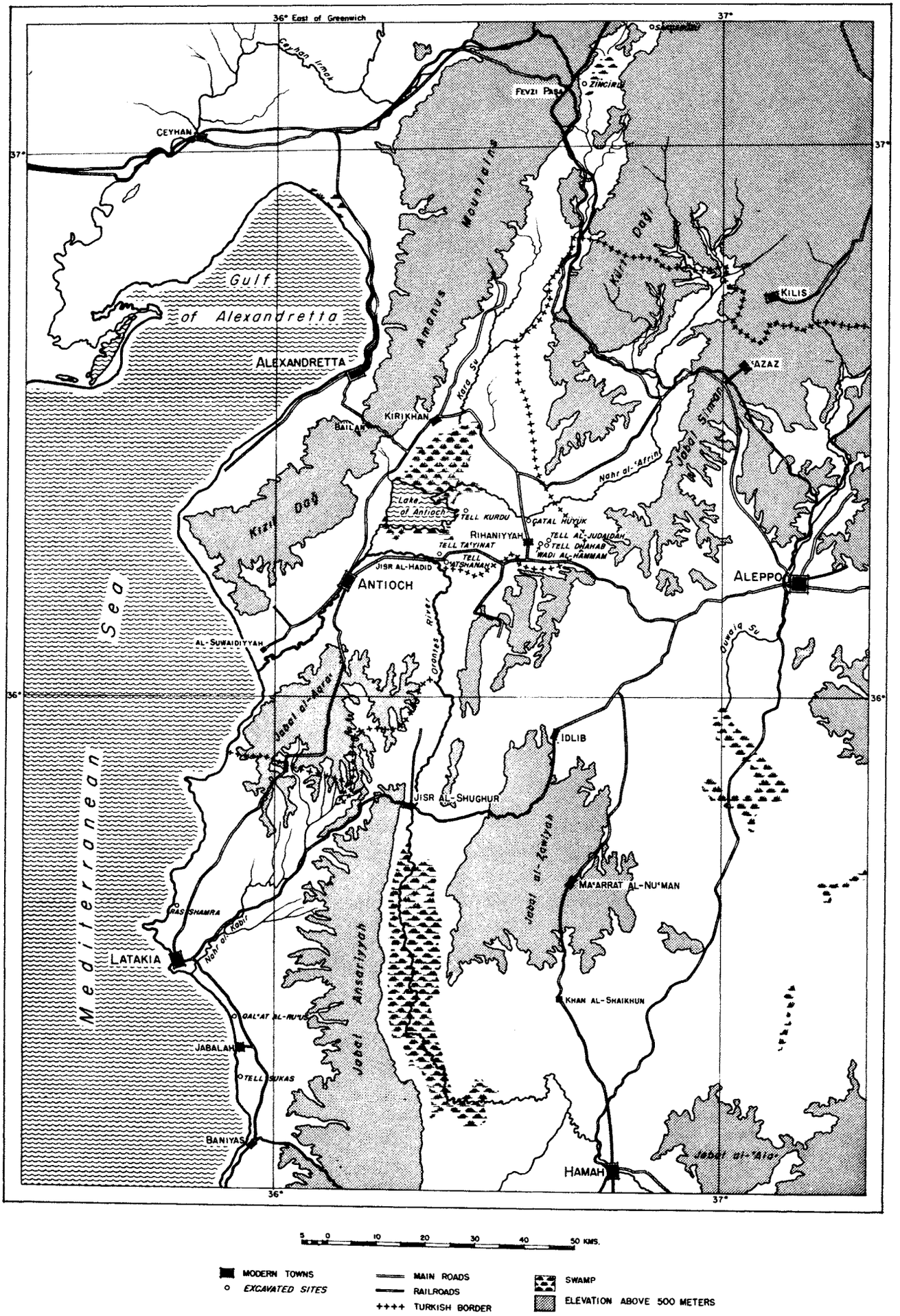

FIG. 1.—MAP OF NORTHWEST SYRIA AND HATAY

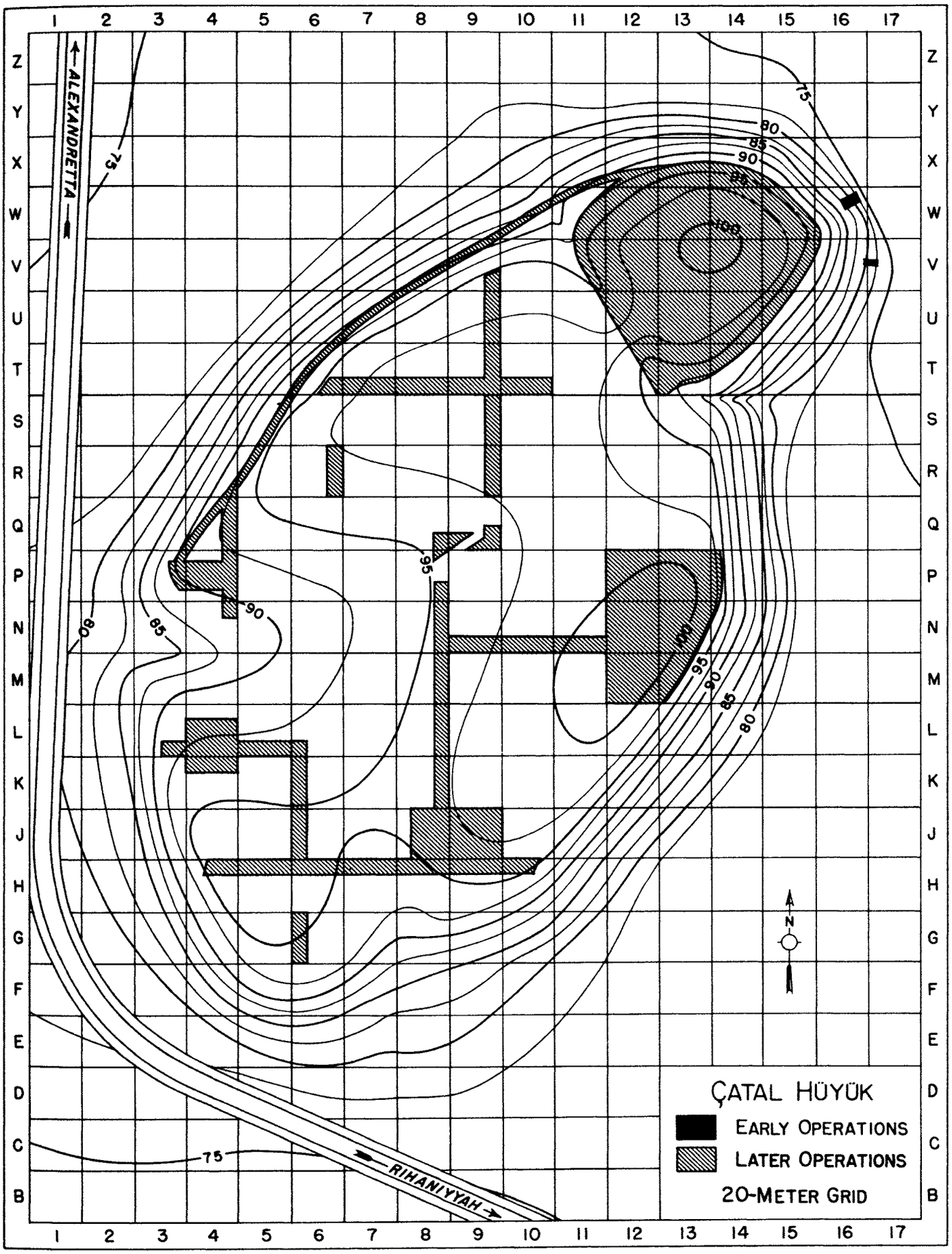

FIG. 2.—PLOT PLAN OF CHATAL HÜYÜK. SCALE, 1:2000

from the earliest range to *ca.* 2000 B.C., both on stratigraphic grounds and in terms of the general typological series involved. But in addition to phases for which the bulk of materials available is unfortunately small, there are phases for which our materials from stratified contexts do not represent what we would expect to have been their entire duration.

The materials with which this volume is concerned have been divided—on typological grounds and with respect to the intermound fabric of stratigraphic succession—into ten phases. These phases show in fact ten reasonably distinct assemblages and represent the material manifestations of what must have been ten reasonably distinct and successive cultures. The relative time durations of these cultures were certainly not equal. The earliest of our phases is A, and the succession (as treated in this volume) runs through Phase J, which must end *ca.* 2000 B.C.[3] This phase classification has been arbitrarily set up, each phase including the range of strata or floors during which a particular assemblage of artifacts was characteristic. The term "phase" is used in preference to "period" because certain categories of items in one assemblage may extend into one or more of the following assemblages. The impression is one of development and flow of artifactual materials along with the appearance of new traits, and not a succession of completely new assemblages. Hence we use the word "phase" instead of "period."

The following general description concerns the mounds which yielded the materials presented in this report. More detailed statements regarding the operations in each phase will follow in the successive phase chapters.

Chatal Hüyük (Pl. 2 *A*)

Survey, No. 167. 36°18′ N, 36°33′ E;[4] elevation of plain at base, *ca.* 75.0 m. (=103.5 m.);[5] greatest elevation, 100.5 m. (=129.0 m.); greatest length (NE–SW), *ca.* 430 m.; greatest breadth (NW–SE), *ca.* 265 m. On left bank of ʿAfrin River some 4 km. northwest of town of Rihaniyyah.

It was on this mound, in squares V 16 (+17) and W 16 (Fig. 2), that the first operations made intentionally for early materials were begun in March of 1935. The two operations were small base cuts worked as tunnels which proceeded horizontally into the steep slope of the mound at approximately the 77 m. level. Each of the tunnels was *ca.* 1.25 m. wide by 2.0 m. high; that in W 16 was taken 4.0 m. into the mound after the talus debris had been cleared, while the tunnel in V 16 proceeded 5.5 m. inward beyond the talus. Two floors were encountered in each tunnel; the lower floor in each tunnel yielded material clearly of Phase I; the contents of the upper floor of V 16 are best assigned to the Second Mixed Range.

In March of 1936, the tunnel in W 16 was reopened and expanded, being operated as an open pit some 3.5 × 5.0 m. in size (Pl. 2 *B*). The talus debris having first been cleared, this pit was dug from well above the head of the original tunnel through nine floors or ash lines; floors

[3] It will appear subsequently that there are two blocks of materials from stratigraphically mixed or contextually uncertain findspots, which are referred to as "First Mixed Range" and "Second Mixed Range."

[4] Latitudes and longitudes are from the (*Carte générale du*) *Levant—1:50,000* of the Service Géographique de l'Armée at Beirut.

[5] All elevations are given in terms of sea-level. As regards the Chatal Hüyük elevations, there is probably some mix-up. The Levant 1:50,000 sheet NJ-37-1-2*c* shows an elevation of 129 m. on the summit of the mound; the nearest elevation given on the plain (some 600 m. north of the mound) is 103 m. What apparently happened is that the engineers hired to do our original survey in 1931/32 were supplied with the elevation of some point at the base of the mound, and through some confusion this was taken to be the elevation of the point on the summit. The elevations given by the Levant 1:50,000 sheets for the summits of Tell al-Judaidah and Tell Taʿyinat do check with the elevations supplied us by the Service de Cadastre for its points on these mounds.

Since the original notes of our surveyors cannot be found, it is impossible to compute the exact difference between our elevations and the true elevations. Apparently, *ca.* 28.5 m. should be added to all our Chatal Hüyük elevations to bring them into true relationship with sea-level.

3 and 4 of this series (numbered from top to bottom) are the original upper and lower floors of the tunnel. The materials from the floors are classified as follows:

1–2	Second Mixed Range
3–4	Phase I
5	Phase H
6	Phase F, somewhat contaminated by Phase H
7–9	Phase F

The ninth floor was at an elevation of 74.76 m.; the soil appeared to be sterile *ca.* 0.5 m. below this level, but the pit was taken down to ground-water level (71.08 m.) Apr. 9, 1936, with no further signs of disturbance (Pl. 2 *C*).

Tell al-Judaidah (Pl. 3 *A*)

Survey, No. 176. 36°16′10″ N, 36°35′10″ E; elevation of plain at base, *ca.* 130 m.; greatest elevation, 161 m.; greatest length (E–W), *ca.* 370 m.; greatest breadth (N–S), *ca.* 250 m. On north bank of a pond and east bank of the stream, Nahr al-Judaidah or Kızıl Irk, which flows from the pond; *ca* 1.5 km. southeast of Rihaniyyah (Fig. 3; see also *Survey*, Map VIII).

Operations in the earlier horizons of Judaidah began in September of 1935. The first exposures were made only in the form of narrow shallow trenches, mainly in square J 3, the area of a fairly evident terrace on the northwest slope of the mound (Fig. 4). In these trenches, numbered TT 1 to TT 11, we traced various partially exposed stone foundations in search of fortification walls which did not materialize. The potsherds from these shallow trenches were predominantly of Phase I type, but in general the materials were contaminated with later pieces to such an extent that the whole lot is assigned to the Second Mixed Range.

On Sept. 6, 1935, the preparation of a 4.0 m. wide step trench (TT 20[6]) down the southwest slope of the mound was begun (see Pl. 3 *A*). This trench cut diagonally through squares D 4 and C 3 (see Fig. 4) and had a total length of 47 m. It was first cleared down to a uniform depth of 0.5 m. (measured prependicularly to the slope of the mound). On the upper two-thirds of the slope, this depth was more than sufficient to penetrate the vegetation and humus and to expose the original floor lines (Figs. 5–6, Pls. 3 *B* and 4 *A*). On the lowest third of the slope, the talus debris increased in depth to as much as 2.0 m. (perpendicular to the slope at that point; see especially the section in Fig. 5) before the original floor lines were reached. When the debris had been completely removed, the trench was divided into steps.[7] The height of each step (*ca.* 1.5–1.8 m.) was determined for the workman's convenience in picking. The exact step height in each case was actually adjusted to fit the number of original floors which happened to appear in a rise of *ca.* 1.5–2 m.

Fifteen steps were necessary throughout the run of TT 20; these were numbered from top to bottom in Roman numerals. The original floors or features within each step, from the working level upward, were numbered in Arabic numerals. Thus the designation TT 20 XIV 2 refers to the second floor above the working level in the fourteenth step of the trench.

Operations in the step trench normally proceeded as follows. The dirt was removed from the vertical face or riser of each step in narrow strips with respect to each original floor. The first strip extended from the top of the step down to 10 cm. below the uppermost original floor line. The second strip (see Fig. 6) was not begun until all the debris from the first strip had been cleared from the working level and the sherd basket for the first strip dumped in its appropriate line in the sherd yard (see p. 23).

[6] There were no trenches numbered from 12 to 19.

[7] In the higher levels these steps were subsequently broken down into substeps for greater convenience of working (see e.g. Fig. 5, II 1–II 3).

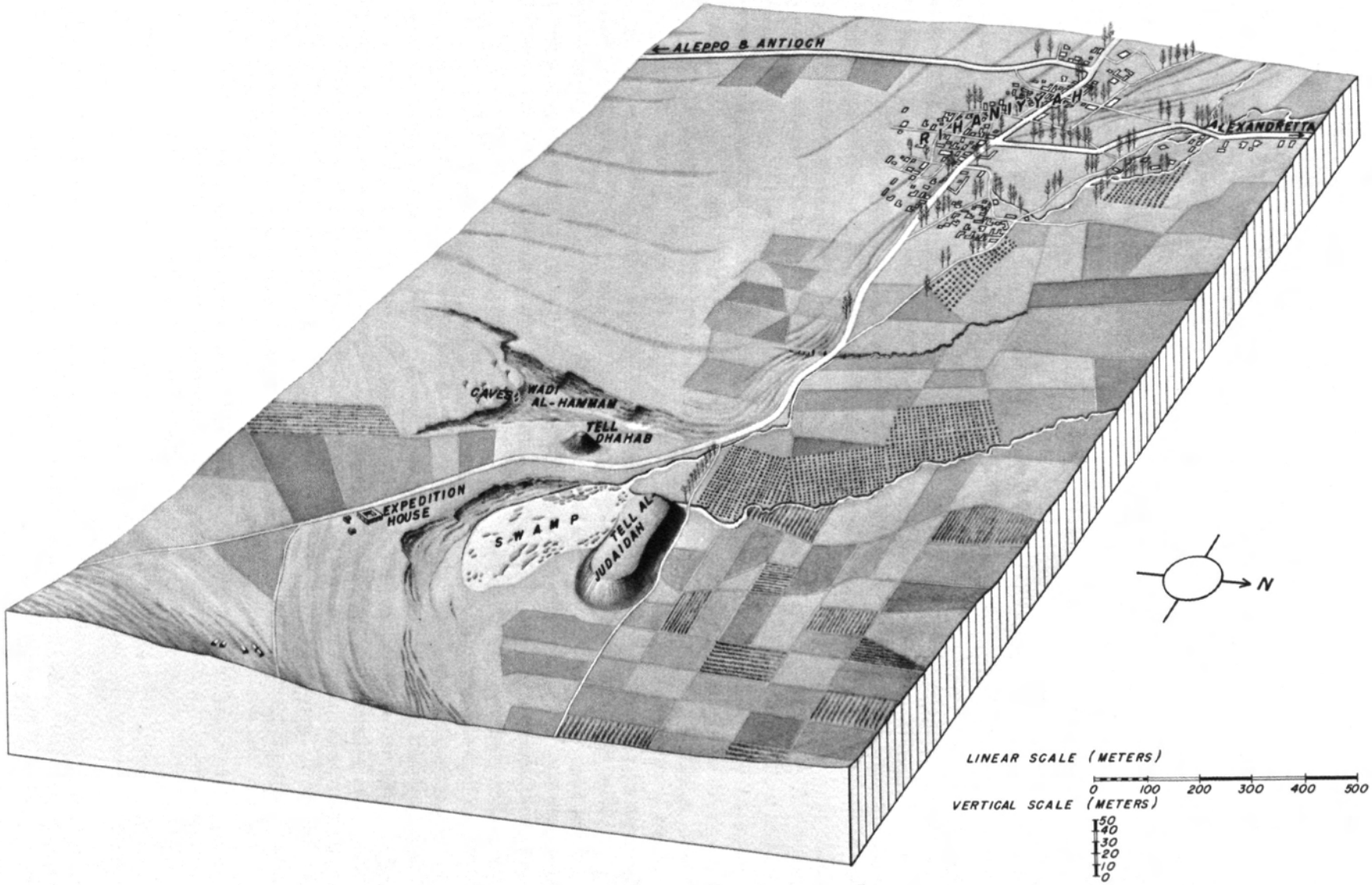

FIG. 3.—BLOCK DIAGRAM OF TELL AL-JUDAIDAH, TELL DHAHAB, AND RIHANIYYAH

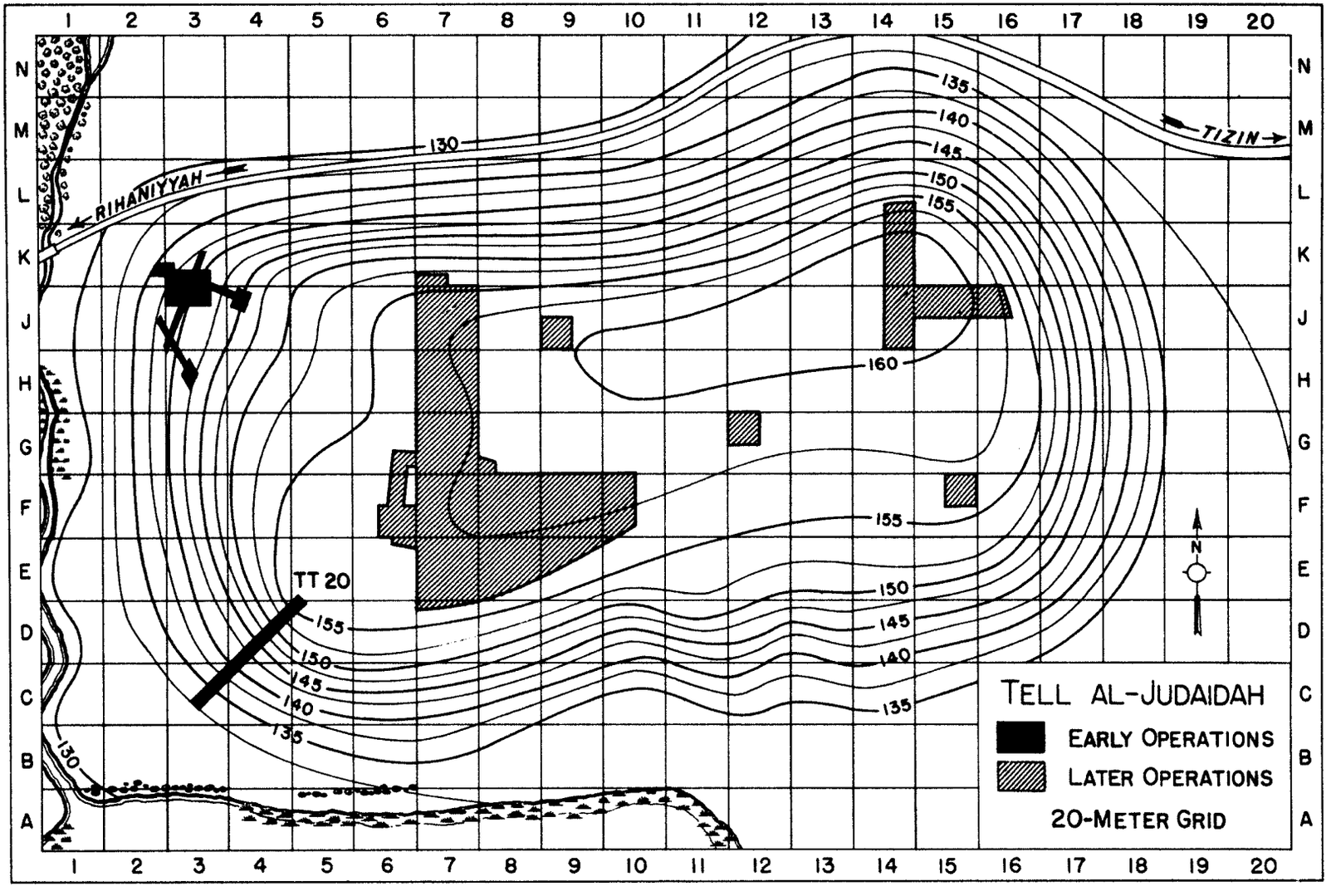

FIG. 4.—PLOT PLAN OF JUDAIDAH. SCALE, 1:2000

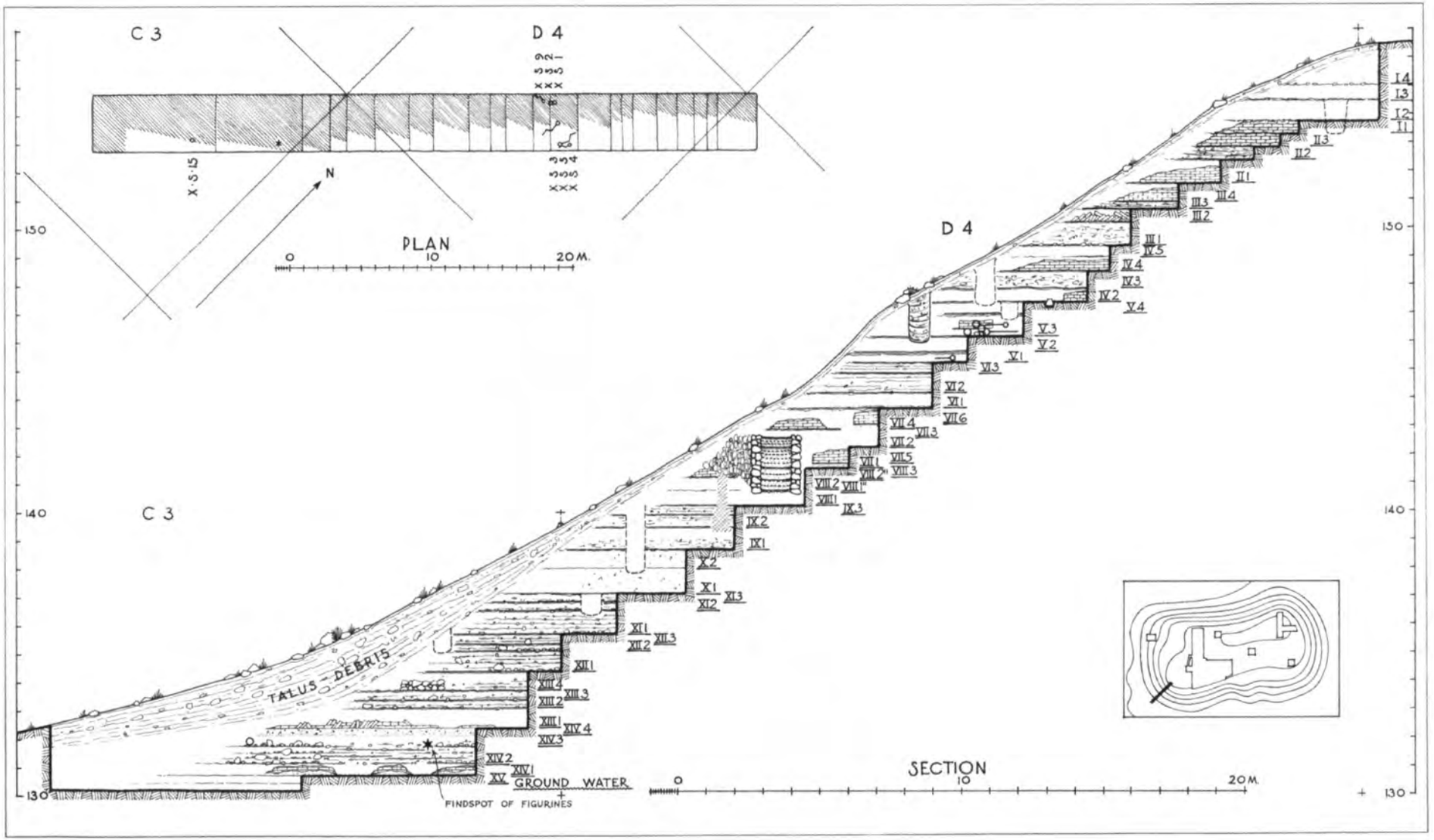

FIG. 5.—SECTION AND PLAN OF JUDAIDAH TT 20

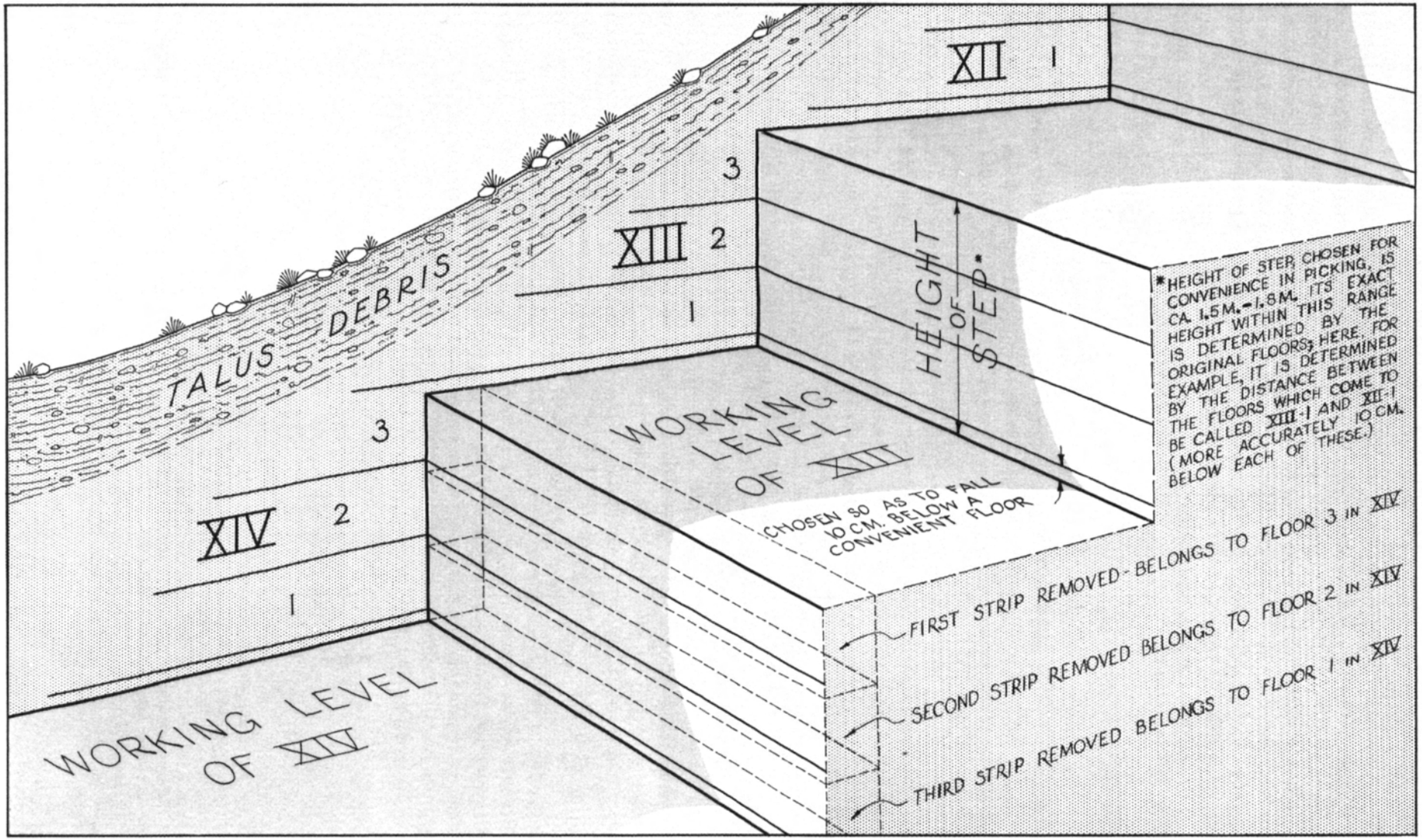

FIG. 6.—THEORETICAL ISOMETRIC DRAWING OF A PORTION OF JUDAIDAH TT 20

This vertical-face method of excavation is only theoretically exact. In actual fact, our experience indicates that as we were able to apply it, with the maximum amount of control practical within the limits of our staff, it is at best more generalizing than exact. In our opinion, its limitations are that it is impossible to give individual superintendence to every local workman and therefore minor irregularities will occur, that a mound-edge situation is always somewhat suspect (with animal holes, root molds, and occasional earth cracks or slump), and that the method is not adapted to architectural clearances.

In the range of phases with which this report is concerned, the sherd sortings indicate the following sequence in TT 20:

X–XIII (all floors)	Second Mixed Range
XIV 4	Phase H
XIV 1–3, XV	Phase G

In no case were the sherd samplings as large as those in the JK 3 operation (see below), and one is not inclined to allow them as much weight as the JK 3 samplings. It will be apparent that precise phase classification became impossible above XIV 4, a condition which persisted up to about step VII.

The third and most significant operation in the earlier levels of Judaidah was a 10.0 × 10.0 m. square opened on the so-called terrace where the test trenches TT 1 to TT 11 had been worked. This operation, called JK 3 since its east-west axis was the line separating squares J 3 and K 3 (see Fig. 4), was begun Sept. 10, 1935. Two weeks later, its eastern edge was extended 5.0 m. more into the mound, so that the effective area (until it was necessary for reasons of safety to reduce it) was *ca.* 10.0 × 15.0 m. However, because the original floors were horizontal and the mound slope at this point was appreciable, the total 10.0 × 15.0 m. area did not become effective until about floor 11 (Fig. 7).

The greatest depth reached in JK 3 was *ca.* 15.0 m. (elev. *ca.* 125.0 m.) below the original mound slope at this point. This depth was in a small sump pit which we made for drainage. The general area (much reduced at this depth) was taken to elevation 125.48 m., or to an average of *ca.* 0.75 m. into virgin soil, which dips gently westward at this point. Ground water was encountered at 127.95 m. (see Fig. 7), so that the deepest 2.5 m. of the operation had to be carried on with the aid of a pump (Pl. 4 *C–D*). Actually, the earth became increasingly damp and muddy below 130.0 m., and, while the floor lines and some stone foundations were easily discernible, it was impossible to work for mud-walled architecture.

Twenty-seven original floor lines were encountered in the JK 3 operation. A darkened area (28), possibly a floor, appeared just above virgin soil in our sump pit. The effective area of operation became increasingly smaller because of the necessary battering of the pit walls for purposes of safety. The first large reduction in area was made below floor 23, another below floor 25 (see Fig. 7).[8] The contents of the successive floors have been classified as follows:

1–5	Second Mixed Range
6	Phase I
7–11, 12 debris[9]	Phase H
12–20	Phase G
21 debris, 21, 22 debris	Phase F
22, 23 debris, 23	First Mixed Range
24 debris, 24, 25 debris	Phase B
25–28	Phase A

[8] The plans of those floors in JK 3 which yielded architectural features appear in the proper phase chapters. Computed areas, in tabular form, appear in Table I.

[9] Beginning with floor 12, sherd sortings in JK 3 were made separately for the layers containing the floors themselves and for the debris above the floors (see p. 22). In some cases a floor belongs to one phase, the debris above it to the next phase.

No other operations were made in the range of Phases A–J on Judaidah. Some variety of the sherds of these phases was of course encountered as extrusive material in operations in the higher levels of the mound.

In our preliminary reports[10] the ʿAmuq sequence is given in terms of "periods" on Judaidah. The nomenclature "period" has been abandoned in favor of "phase," for reasons already explained, and the sequence has been elaborated by the appearance of three consistent assemblages in Tell Kurdu (Phases C, D, E). Evidences of these were present in the First Mixed

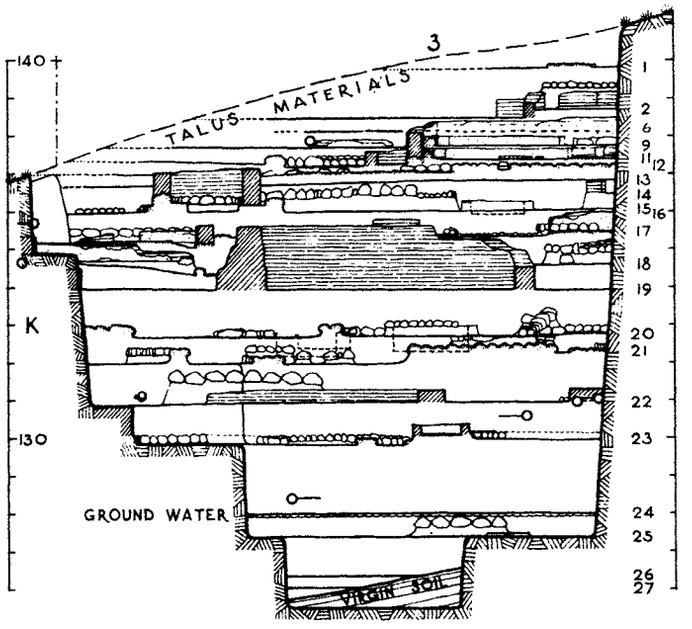

FIG. 7.—SECTION OF JUDAIDAH JK 3. SCALE, 1:200

Range on Judaidah, but the sequence was unclear. The following table indicates the general correspondence between the old Judaidah nomenclature and the present ʿAmuq nomenclature for the range with which this volume is concerned:

ʿAmuq phases	Judaidah periods
J	IX
I	X
H	XI
G	XII
F	XIII
E–C	"provincial" and "true" Tell al-Halaf[11]
B–A	XIV

[10] The Judaidah sequence was published in tabular form first in *AJA* XLI (1937) 10–11, then in the *Survey*, pp. 6–7. The Judaidah nomenclature also appeared in some of the notes supplied for the "Oriental Institute archeological report on the Near East" in *AJSL* L–LVIII (1933/34–1941). The present nomenclature was indicated in *JNES* III (1944) 66, n. 45; also in W. M. Krogman, "Ancient cranial types at Chatal Hüyük and Tell al-Judaidah . . . ," Türk Tarih Kurumu, *Belleten* XIII (Ankara, 1949) 407–77, and Robert W. Ehrich (ed.), *Relative Chronologies in Old World Archeology* (Chicago, 1954) pp. 36–41.

[11] The term " 'provincial' and 'true' Tell al-Halaf" was used in the first two reports cited in n. 10. It represents essentially the First Mixed Range (see p. 4, n. 3), which actually contains considerably more than "provincial" and "true" Tell al-Halaf (see chap. iv).

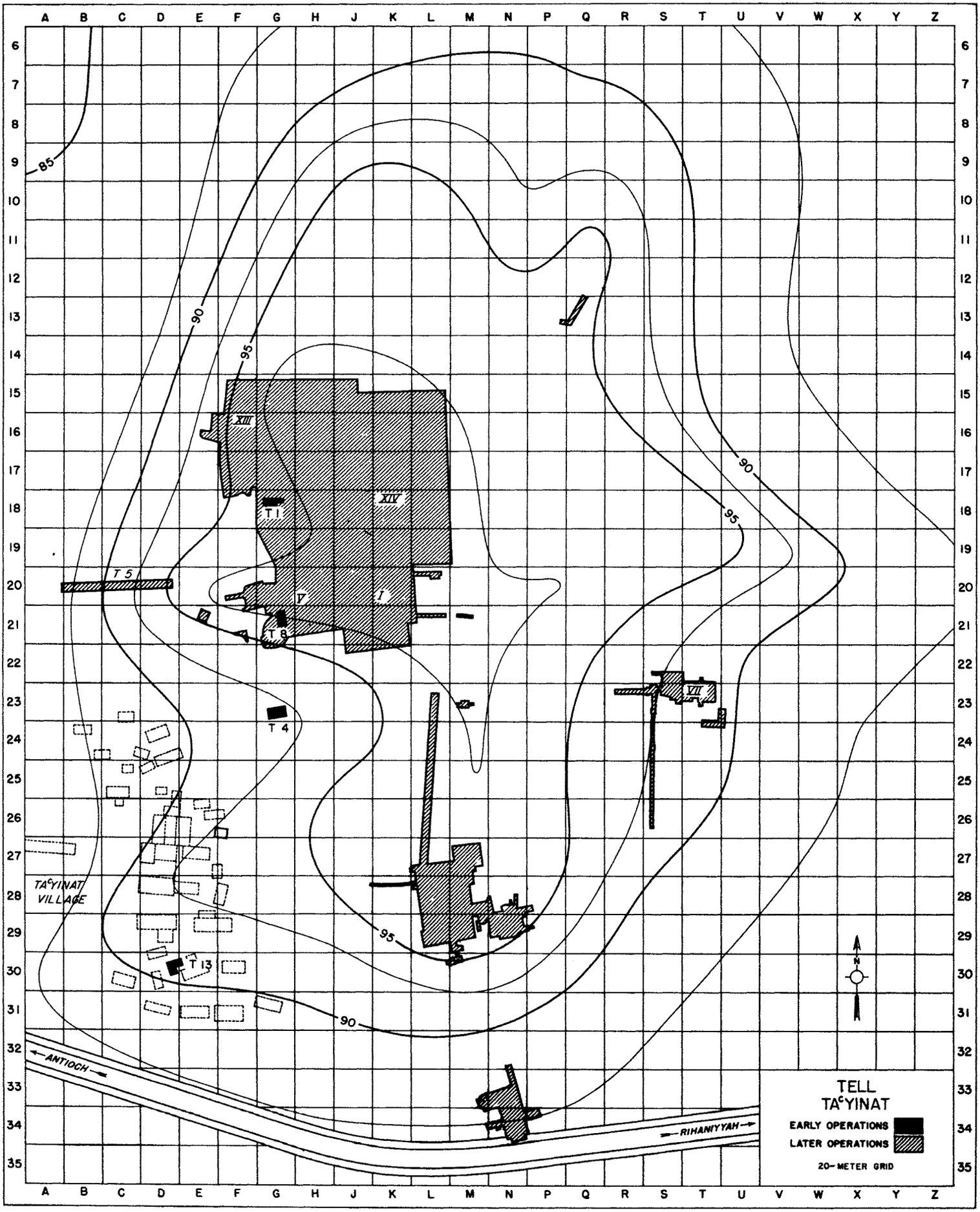

FIG. 8.—PLOT PLAN OF CENTRAL PORTION OF TELL TA'YINAT. SCALE, 1:2500

TELL TA'YINAT (PL. 5)

Survey, No. 126. 36°15′ N, 36°22′30″ E; elevation of plain at base, *ca.* 86 m.; greatest elevation, *ca.* 101 m.; greatest length (N–S), *ca.* 700 m.; greatest breadth (E–W), *ca.* 500 m. 1.4 km. east of bend of Orontes River at Jisr al-Hadid; *ca.* 17.5 km. west of Rihaniyyah and *ca.* 20 km. east-northeast of Antioch.

Tell Ta'yinat was the site of an elaborate installation during the "Syro-Hittite" period (Phase O), which included a complex of monumental architecture (Pl. 5 *B*). The operations (Fig. 8) concentrating on this horizon began in March of 1935. Materials from earlier ranges (particularly Phases I and J) were fairly common in the deep trenches used in tracing the heavy mud-brick walls and foundations of the larger "Syro-Hittite" buildings. The builders of these structures apparently dug deep, straight, vertical-faced trenches which they filled like forms with the courses of the mud-brick foundations of their buildings. We usually traced alongside these foundations in narrow trenches, deep enough to expose the bottom of the foundations, sometimes 6 or 7 m. below the surface. Our trenches for tracing obviously cut through strata not disturbed by the original builders' foundation trenches, and these strata yielded material typologically of Phases J, I, and even H. It was not practical to clear individual floors in our narrow tracing trenches, and the materials derived from these trenches are assigned to the Second Mixed Range. The most important findspots[12] in this category are the following:

Building I	wall-tracing trenches: floor 4 and below
Building V	wall-tracing trenches: floor 2 and immediately below
Building VII	wall-tracing trenches: below floor 2
Building XIII	below building
Building XIV	wall-tracing trenches: below building I
Step trench T 5	III 2–3, II 2

During the spring and summer of 1938, we completed several small operations on Tell Ta'yinat with the intention of clearing levels of the earlier phases. Certain other operations, commenced for later materials, quickly yielded earlier materials and were continued for them.

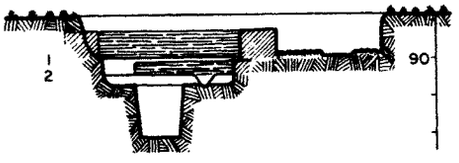

FIG. 9.—SECTION OF TA'YINAT T 13. SCALE, 1:200

The first of these operations, T 13 (in square D 30; see Fig. 8), was put down to investigate some semiburned mud brick which our workmen had observed between two buildings in the village of Ta'yinat. A thundershower had washed over the bare barnyard-like area in question, and, when a thin layer of the surface was shaved off with a scraper, the direction and widths of several walls became apparent. Unfortunately, the modern buildings prevented any great exposure; the operation began in an L-shaped trench 44 sq. m. in area. Below the first floor, the area had to be reduced to 23 sq. m.; this area was continued only to some 25 cm. below the second floor; the total depth of the operation was *ca.* 3.0 m. (Fig. 9). No intrusion from the surface was apparent. The material which the two floors (plus) yielded was of Phase J.

Supplementary to T 13, two small operations were started simultaneously in the west central area of the mound. One of these, T 8 (in square G 21; see Fig. 8), was laid out under Building

[12] On Tell Ta'yinat, where the large buildings of the "Syro-Hittite" period covered several 20 m. squares, it was customary to assign numbers (in Roman) to the individual buildings. The building numbers, rather than the 20 m. squares, were used in recording findspots. For T 5 the Roman numbers indicate the steps (cf. Judaidah TT 20; p. 5).

V, already cleared well below its first floor in an earlier operation. A 4.5 × 8.0 m. cut (Fig. 10) began yielding early material in the debris above the third floor. Two reductions in length were made before the cut was cleared of its eighth floor, slightly over 6.0 m. below the first floor of Building V. At this point the cut was discontinued. Material from the cut is recorded as T 8 plus the specific floor. The range involved is as follows:

2 and immediately below	Second Mixed Range
3–4	Phase J
5–8	Phase I

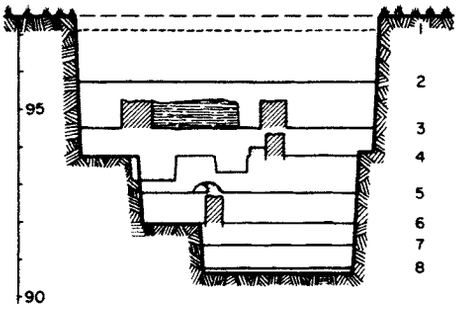

FIG. 10.—SECTION OF TA'YINAT T 8. SCALE, 1:200

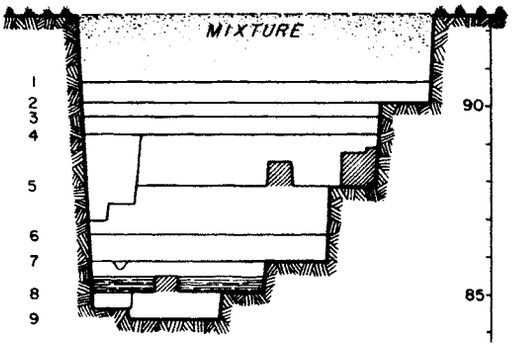

FIG. 11.—SECTION OF TA'YINAT T 4. SCALE, 1:200

The second operation supplementary to T 13 was T 4 (in square G 23; see Fig. 8), laid out in a gentle wadi-like depression south of the high portion of the mound where the great "Syro-Hittite" buildings lay. Opened as a 6.0 × 9.0 m. cut, this operation encountered its first floor at a depth of *ca.* 1.7 m. and was carried down (with four reductions) to its ninth floor at a depth of 8.0 m. below the surface (Fig. 11). The range involved is as follows:

surface to 1.5 m.	Second Mixed Range
1	Phase J
2–5	Phase I
6–9	Phase H

Only one other operation on Tell Ta'yinat yielded early materials, it being a small pit (*ca.* 2.0 × 4.0 m., with subsequent reduction) called T 1 (in square G 18; see Fig. 8), which was taken down into earlier depths of the mound by accident. The materials which this pit yielded are minuscule, but the sherds from its floors 4–6 are of Phase I types.

In conclusion to this general statement on the operations which were conducted in search of early materials on Tell Ta'yinat, it may be noted that virgin soil was nowhere reached.

TELL DHAHAB (Pl. 6)

Survey, No. 177. 36°15′55″ N, 36°34′55″ E; elevation of plain at base, *ca.* 152 m.; greatest elevation, *ca.* 162 m.; diameter (mound is approximately circular), *ca.* 60 m. *Ca.* 200 m. west of pond at base of Tell al-Judaidah; *ca.* 1.5 km. east of Rihaniyyah.

The Tell Dhahab operations (Fig. 12) were done in "collaboration" with certain amateurs under circumstances which attended the troubled political conditions in the summer of 1938. A 4.0 m. wide step trench (TT 1) was worked on the north slope of the mound. This trench ran from the base to within *ca.* 6.5 m. of the center of the mound, being *ca.* 22.5 m. long and 6.0 m. deep at its greatest full depth. Below this point, a tunnel was taken into the center of the mound at a depth of 8.0 m. We also reopened and squared up a robbers' pit on the west

slope of the mound (TT 2), an operation 2.5 × 3.0 m. in size, which we took down to a depth of *ca.* 6.0 m. Finally, the exposed stone foundations of what was evidently a late (early Christian or Medieval Arab) square structure on the crest of the mound were cleared, and the area (*ca.* 8.5 m. × 9.0 m.; called T.C.) was taken down to a depth of somewhat over 1.5 m.

The likelihood that Tell Dhahab would yield only early materials had been indicated by our survey (see *Survey*, No. 177); the main purpose of the operations was to test whether or not it was a tumulus type of structure. This it does not seem to have been. Notwithstanding the small size and quite symmetrical shape of the mound, it did contain mud-brick walls of domestic type and a built oven characteristic of Phase H. The stratification was somewhat strange (see Fig. 12), however, and our hurried operations were not sufficiently detailed to allow an interpretation of the original character of the mound. Even more unfortunate, our

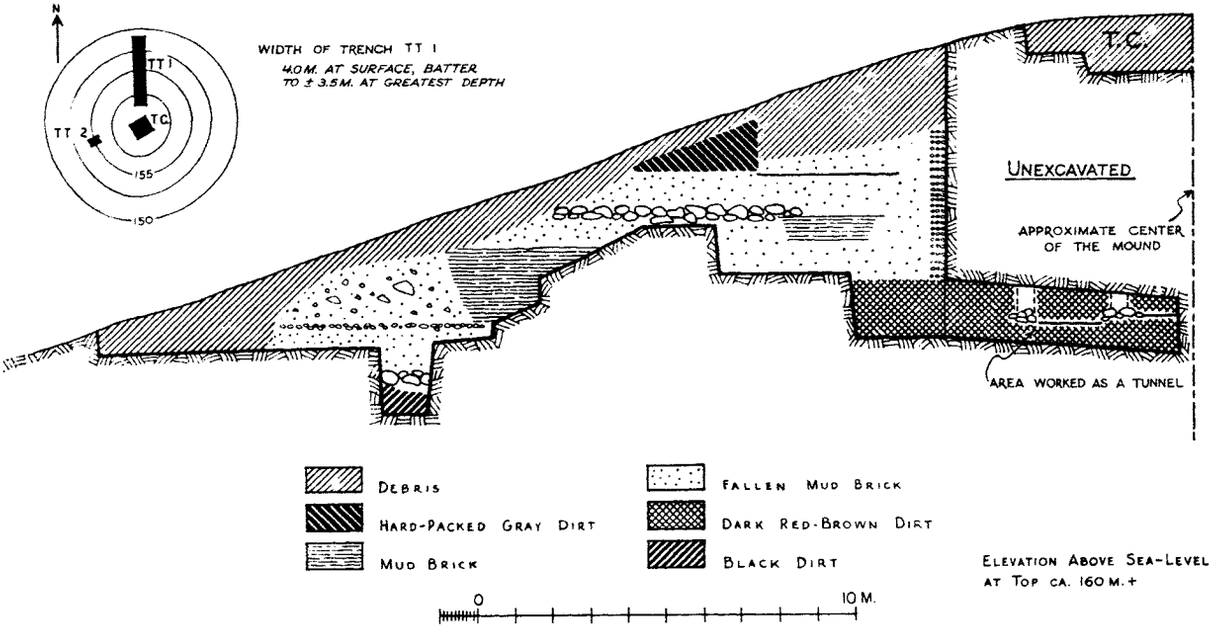

FIG. 12.—PLOT PLAN OF TELL DHAHAB AND SECTION THROUGH STEP TRENCH TT 1

sherd sortings are in no case typologically consistent in content; we recovered very adequate sherd bulks, but the samplings are all mixtures representing three to four specific phases. Hence the best that can be said for Tell Dhahab at this time is that it was occupied during Phases A, F, and H (or G plus H).[13] The phases cannot be correlated with definite strata within our three Dhahab operations.

TELL KURDU

Survey, No. 94. 36°20′ N, 36°27′ E; elevation of plain at base, *ca.* 84.5 m.; greatest elevation, *ca.* 93.3 m.; length (N–S), *ca.* 450 m.; width (E–W), *ca.* 380 m. *Ca.* 3.3 km. east of open water (summer) in the present Lake of Antioch; *ca.* 13 km. northwest of Rihaniyyah.

The Tell Kurdu operations (Fig. 13) were the last which the expedition carried on for earlier materials. Begun late in August of 1938 (only two weeks before the camp was scheduled to close), the work on this mound was done under considerable press of time, but it was a matter

[13] All Phase A and Phase F ceramic criteria were satisfied in the sortings. The question whether Phases G and H were both represented or whether only Phase H was present cannot be solved without the aid of stratigraphy. This is due to the fact that the main Phase G wares persist into Phase H (see p. 351).

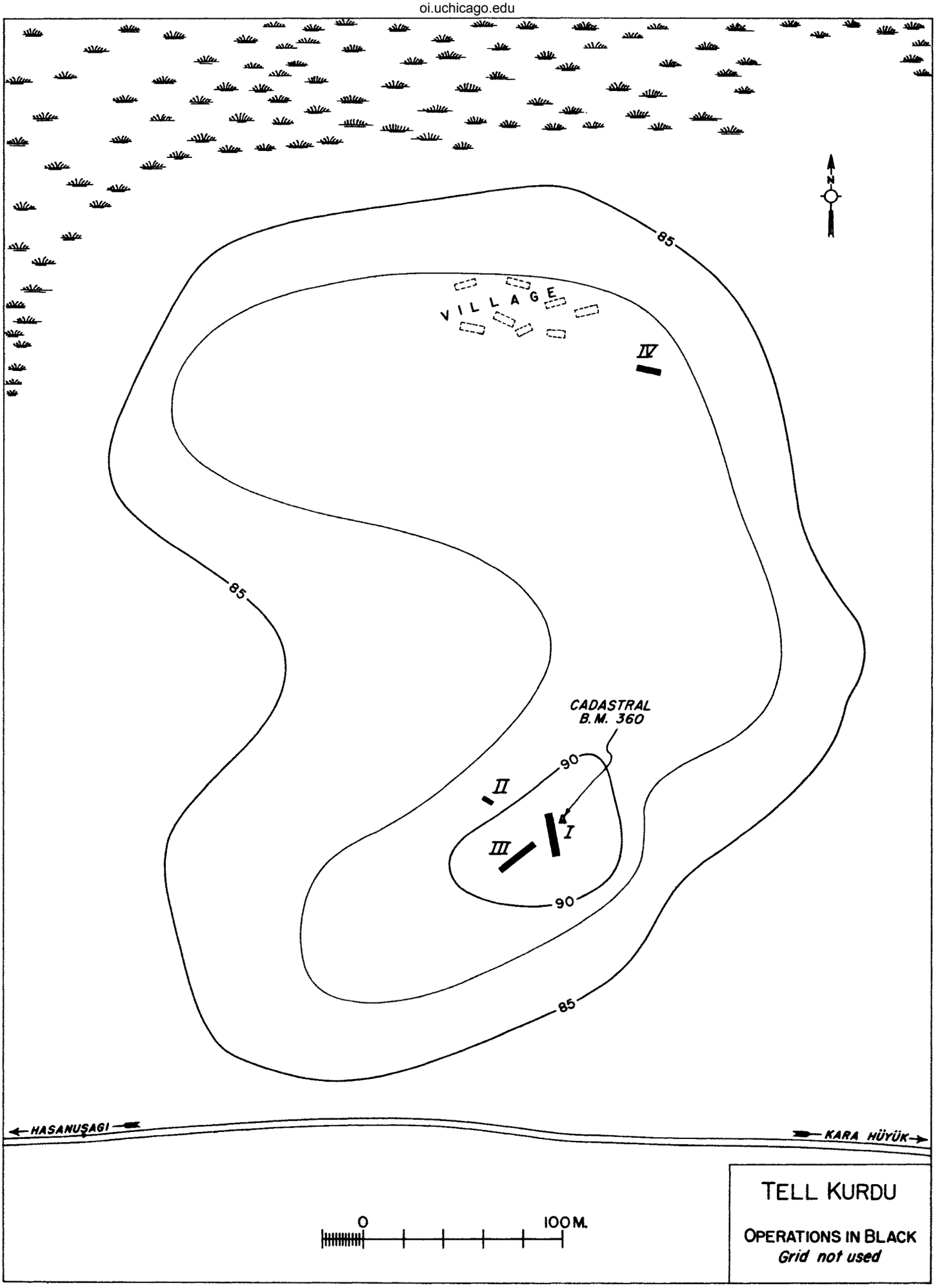

FIG. 13.—PLOT PLAN OF TELL KURDU

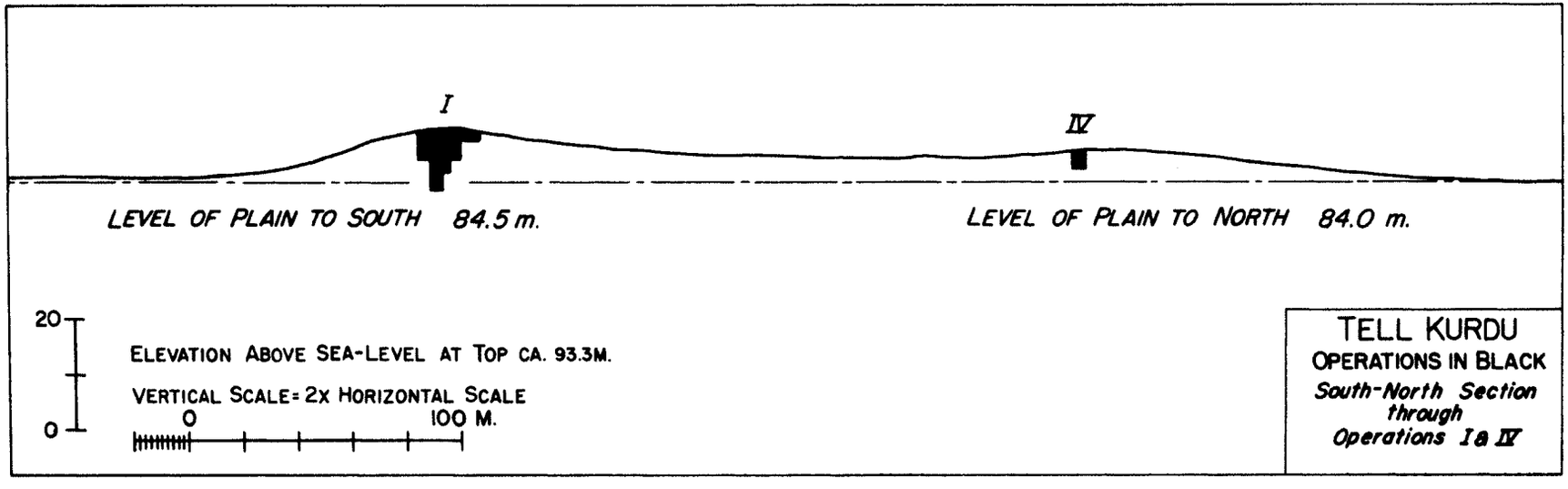

FIG. 14.—SECTION THROUGH KURDU

of getting what we could in this manner or nothing at all. The restricted operations on this large mound will have done no significant harm if the time ever comes to reopen the site. All the material from the Kurdu operations was recorded in 50 cm. layers, for we could not spare the time to work and clear according to individual floors. Three trenches were put down in the southeast center (the highest point) of the tell, and a fourth trench was operated on the northeast crest.

Trench I (4.0 × 20.0 m.) was taken down, with substantial reductions in area (Fig. 14), to a total depth of 11.5 m., where ground water (but not virgin soil) appeared. The materials which this trench yielded are as follows:

surface[14] to 5.0 m.	Phase E
5.0–9.5 m.	Phase D
9.5–11.5 m.	Phase C

Trench II (2.25 × 6.0 m.), taken down to a depth of 2.0 m., yielded only Phase E materials.

Trench III (2.8 × 21.5 m.) was taken down to a depth of 1.5 m. It also yielded only Phase E material.

Trench IV (3.0 × 12.0 m.), on the northeast crest of the mound, was taken down, with reductions in area, to a total depth of 3.5 m.[15] It yielded interesting results in that while there was some mixture of Phase E sherds in the sortings of the uppermost 50 cm. layer, all sortings from below that depth were of Phase C types. Since the difference between the elevation of the surface at trench I and that at trench IV is only 4.3 m. (lower at IV) and since Phase C material was not encountered until 9.5 m. in trench I, the mound is obviously not stratified horizontally. The core of Phase C material is thus considerably higher in the part of the mound under trench IV than it is in the area of trench I. It is particularly unfortunate that operations were not begun earlier in the trench IV area, for the present exposure of Phase C is very small. Moreover, Tell Kurdu may very well yet yield the range of transition between Phases C and B, which is not in hand at present (see p. 137).

This concludes the general description of the mounds from which we regained earlier materials in the ʿAmuq and the operations which yielded the materials.

In September of 1932 the late M. Claude Prost, as acting field director of the Syrian Expedition, supported explorations in several caves in the limestone cliffs about 500 m. south and west of Tell al-Judaidah. The work was done by an itinerant prehistorian, T. P. O'Brien, who also excavated in one of these caves in the Wadi al-Hammam (see Fig. 3 and Pl. 6 *B*).[16] Samples of the pottery exist in the Antioch Museum, and M. Seyrig was so kind as to give us a handful of sherds from the site. We were not, however, able to see the main bulk of the published material. The site is mentioned here simply because it was excavated under the aegis of the Syrian Expedition. It may be noted in passing that the range of material below O'Brien's layer 4 (i.e., below 1.66 m.) appears to be of Phase A types.

Small groups of pertinent potsherds came to hand during our survey, and one such group (from Karaca Khirbat ʿAli; *Survey*, No. 168) is presented in connection with Phase E (see pp. 201–4).

[14] A few late sherds, especially Hellenistic–Roman and Medieval Arab, appeared in the humus line at the surface. Below 25 cm., the sortings of all four Kurdu trenches yielded only early material.

[15] The operations in trench IV, below 1.5 m., were actually completed by Dr. McEwan after we had left camp. The sherds for the succeeding 50 cm. layers down to 3.5 m. were sent to Chicago, but no flints or other small objects are available.

[16] O'Brien's short report appeared in *Man* XXXIII (1933) No. 182.

THE CONTEXTS

This section sets forth in tabular form the relative reliability of the various exposures made in the earlier ᶜAmuq ranges. Table I gives our own assessment of the exposures with which this volume is concerned. The table merely summarizes information given in the chapters on the individual phases. The column "Apparent Consistency of Material" refers primarily to the sherd sortings (with, in earlier phases, the flints), but with objects in other categories as corroboration. The figures in the "Greatest Reliable Area" column are slightly deceptive in that the operations often had to be reduced during the range of depth of one phase. A straightforward expression of cubage exposed, phase by phase, appears in graphic form in Figure 15. This graph is exact and ignores the more questionable exposures on Tell Dhahab. But it is really an expression of little more than dirt removed. All the factors expressed in Table I must be taken into account if a fair assessment of the reliability of the early ᶜAmuq exposures is to be achieved.

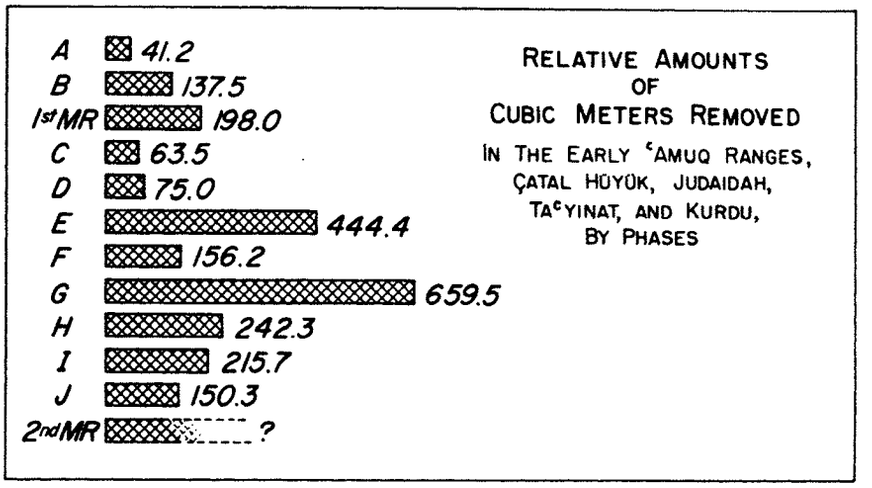

FIG. 15.—CHART SHOWING RELATIVE AMOUNTS OF CUBIC EARTH MOVED FOR EACH PHASE (CF. TABLE I)

The usefulness of Table I refers mainly to matters of interpretation. Clear and consistent as the materials from the Tell Kurdu operations yielding Phases C and D may have been, the exposures were really minute. There is some corroborative material in this range from the valley (Woolley's Tell al-Shaikh). We are not encouraged to give as much weight, in matters of interpretation, to the Phase C and Phase D materials as we do, for example, to those of Phase G or H. We have, in fact, found ourselves on the horns of a dilemma as regards the earlier ᶜAmuq ranges in particular; there is the urge to wring as much information as possible out of the small samplings at hand and at the same time the danger of reading more into the materials than the size of the samplings and the normal accidents of deposition and excavation would justify.

THE FIELD ROUTINE

This section contains a general statement on the routine used in the field. We make no claims that it came anywhere near an ideal set of field procedures. In fact, after processing our materials for publication, we are only too conscious of its limitations. What follows is meant merely to give our colleagues the opportunity of benefiting by our mistakes and of arriving at a better understanding of the relative reliability of our materials from the point of view of the factors governing their removal from original context.

TABLE I

RELATIVE RELIABILITY OF THE ʿAMUQ EXPOSURES

Phase	Site	Operation	Number of Floors Encountered	Greatest Reliable Area (sq. m.)	Greatest Depth (m.)	Position of Operation	Type of Operation*	Stratigraphic Behavior	Type of Architecture	Apparent Consistency of Material	Remarks
SECOND MIXED RANGE	Judaidah	JK 3:1–5 TT 20 XI–XII, XIII 2–4 TT 1–11	?	*ca.* 156	?	Mound edge and surface	See remarks				Two main types of materials are involved: those found (*a*) between the surface and the first floor with consistent material in operations sunk into early horizons and (*b*) in trenches and pits used in tracing deeply founded walls of later buildings on Taʿyinat (see p. 13).
	Chatal Hüyük	V 16, upper floor W 16:1–2	?	22	?	Mound edge and surface					
	Taʿyinat	See pp. 13–14	?	*ca.* 190	?	See remarks					
J	Taʿyinat	T 4:1	1	54.0	0.7	Core	Rectangular cuts: hor. strip.	Horizontal	Open area, small houses	Consistent	In at least the uppermost floor of T 13 the walls were 1.0 m. thick and well built, though the rooms encountered were not exceptionally large.
		T 8:3–4	2	36.0	1.7						
		T 13	2+	44.0	1.5						
I	Judaidah	JK 3:6	1	76.2	*ca.* 0.20	Within mound edge near surface	Base cut: hor. strip.	Evidently horizontal	Evidently open area, no walls	Consistent	See p. 396.
	Chatal Hüyük	V 16, lower floor W 16:3–4	2	29.4	*ca.* 1.5	Mound edge	Tunnels and base cut	Evidently horizontal	Evidently small houses, walls intercepted	Consistent	V 16 worked only as tunnel, W 16 first as tunnel and then as base cut.
	Taʿyinat	T 4:2–5	4	54.0	*ca.* 2.2	Core	Rectangular cuts: hor. strip.	Horizontal	Evidently open areas, few walls, pits	Consistent	T 1 not recorded architecturally.
		T 8:5–6	4	24.0	*ca.* 2.9			Horizontal			
		T 1:4–6	3	6.0	*ca.* 1.5			Evidently horizontal			
H	Judaidah	JK 3:7–11 and debris above floor 12	5	103.7	1.2	Within mound edge near surface	Base cut: hor. strip.	Horizontal	Small houses, open areas, pits	Consistent	Area reduced from that of Phase G, by slope of mound and talus debris on it (see Fig. 7).
		TT 20 XIV 4	1	12.5+	0.4+	Mound edge	Step trench: vert. face	Horizontal	Evidently small house, floors	Consistent	
	Chatal Hüyük	W 16:5	1	17.5	0.5	Mound edge	Base cut: hor. strip.	Horizontal	Mud-brick walls, oven	Consistent	Small but straightforward.
	Taʿyinat	T 4:6–9	4	35.8	3.0	Core	Rectangular cut: hor. strip.	Horizontal	Evidently open area, few walls	Consistent	Small house walls appeared only for 8th floor. No other structures save fire pit in 7th floor.
	Dhahab	TT 1–2, T.C.	?	130†	?	Edge, core	Side cut: hor. strip. and vert. face	Unclear	See Phase A	Inconsistent	See Phase A.

TABLE I—*Continued*

Phase	Site	Operation	Number of Floors Encountered	Greatest Reliable Area (sq. m.)	Greatest Depth (m.)	Position of Operation	Type of Operation*	Stratigraphic Behavior	Type of Architecture	Apparent Consistency of Material	Remarks
G	Judaidah	JK 3:12 fl.–20	9	144	4.8	Well within mound edge	Base cut: hor. strip.	Horizontal	Small houses, open areas, some shallow pits	Consistent	Generally straightforward.
		TT 20 XIV 1–3, XV	4	23	1.5	Mound edge	Step trench: vert. face	Horizontal	Evidently small houses, floors	Fairly consistent	Consistency not that of larger area (see p. 10).
	Dhahab possibly	TT 1–2, T.C.	?	130†	?	Edge, core	Side cut: hor. strip. and vert. face	Unclear	See Phase A	Inconsistent	See Phase A. Material counted as typologically of Phase G could also be early Phase H (see p. 350, n. 2).
F	Judaidah	JK 3:21–22	1 (see remarks)	121.2	1.0	Well within mound edge	Base cut: hor. strip.	Horizontal	Small houses	Consistent	Floor 22 architecture considered as of Phase F, but material reclaimed from floor treated with First Mixed Range because of contamination with earlier wares (see pp. 100 ff.).
	Chatal Hüyük	W 16:6–9 and below	4	17.5	*ca.* 2.0	Mound edge	Base cut: hor. strip.	Evidently horizontal	A few mud-brick walls cut	Consistent (see remarks)	Small potsherd sortings lacked some minor wares found on Judaidah. Floor 6 somewhat contaminated by overlying Phase H deposit.
	Dhahab	TT 1–2, T.C.	?	130†	?	Edge, core	Side cut: hor. strip. and vert. face	Unclear	See Phase A	Inconsistent	See Phase A.
E	Kurdu	I–III	See remarks	153.5	5.0	Core	Small trenches: hor. strip.	Evidently horizontal	See remarks	Consistent	Not dug with respect to floors; architecture not cleared (see p. 175).
D	Kurdu	I, 5.0–9.5 m.	See remarks	20	4.5	Core	Small trench: hor. strip.	Evidently horizontal	See remarks	Consistent	Not dug with respect to floors; architecture not cleared (see p. 157).
C	Kurdu	I, 9.5–11.5 m. IV, 0.5–3.5 m.	See remarks	43	3.0	Core	Small trenches: hor. strip.	Evidently horizontal	See remarks	Consistent	Not dug with respect to floors; architecture not cleared (see p. 137).
FIRST MIXED RANGE	Judaidah	JK 3:22 fl.–23	2	110.0	1.8	Well within mound edge	Base cut: hor. strip.	Evidently horizontal	Stone-founded rectangular rooms, shallow silos	Inconsistent	Disturbance indicated by mixture in sherd sortings; floor 22 architecture considered as of Phase F, but sherd sortings etc. treated with First Mixed Range (see pp. 100 ff.).
B	Judaidah	JK 3:24–25	1	72.5	1.9	Well within mound edge	Base cut: hor. strip.	Evidently horizontal	Stone-founded rectangular rooms	Consistent	Consists of one floor line (24), debris below it, and over 1.0 m. of debris above; ground water first encountered here.
A	Judaidah	JK 3:25 fl.–28	3 or 4	72.25	1.75	Well within mound edge	Base cut: hor. strip.	Evidently horizontal strata on pitching virgin soil	Evidently small house (see remarks)	Consistent	Worked under ground water; too muddy for proper clearance of mud-brick or *tauf* architecture. Darkened area (28) just above virgin soil possibly a floor.
	Dhahab	TT 1–2, T.C.	?	130†	?	Edge, core	Side cut: hor. strip. and vert. face	Unclear	Floors, oven, some walls	Inconsistent	Recognition of materials on typological basis only.
	Wadi al-Hammam	A	3+?	48	2.0	Within small cave	Probably hor. strip.	Evidently horizontal	Floor lines	See remarks	Not done under our control (see p. 18); pottery typologically of Phase A.

* Hor. strip. = horizontal stripping method; vert. face = vertical-face method (see p. 10). † Total areas opened; figures cannot be given according to phases represented in sherd sortings.

It will be noted on the plot plans of the three major mounds, Tell al-Judaidah (Fig. 4), Chatal Hüyük (Fig. 2), and Tell Taʿyinat (Fig. 8), that grids of 20 m. squares have been established. This was done before excavation began on the first two mounds, where concrete stakes were set and leveled for each point in the grid, the levels being supplied by the Service de Cadastre from its original triangulation points on the mounds. For Tell Taʿyinat, the grid exists only on paper, having been laid out over our original survey consisting of points on a north-south line and on two east-west lines. The points on the original Taʿyinat survey were concrete stakes set and leveled with reference to the Service de Cadastre triangulation point, and necessary secondary points were set by reference to these original survey points. Since most of the exposures of late architecture on Taʿyinat were large enough to cover several 20 m. squares, the lack of a grid was not inconvenient. The surveys on Tell Kurdu and Tell Dhahab were done by measuring bearings (with a Brunton compass) and distances from the cadastral triangulation points; levels were computed by measurement from the surface of the operations.

Except in the step trenches, the floors were numbered serially as they appeared in a given operation, beginning with the first floor encountered below the surface-humus line. Unfortunately, in some of our less rigidly controlled operations the term "floor" was used synonymously with "level," a term which we normally avoided. In the strict sense, by "floor" we mean any line of compact earth (usually discolored), any layer of dark or grayish ash, any proper floor feature such as paving stones or pebbles, or even the general level at which architectural features (such as doorsills and sockets, hearths, bins, silos) indicated a floor. Such features usually were not more than *ca.* 10 cm. thick, although considerable variation was possible. Above such an observable line usually lay debris, in part accumulated by the leveling-off of the mud-brick walls of the building which referred to the particular floor, in part perhaps accumulated before the walls were leveled but after intense living activity had ceased. This debris varied in thickness from less than 20 cm. to over 2.0 m. Any surviving mud-brick wall butts remained within this debris layer.

The routine for clearance in such a typical situation was ideally as follows. After the previous floor and some 10 cm. below it had been removed, the whole area was carefully scraped and swept. If new mud-brick wall butts showed in plan in the cleared area, their tracing began immediately; if not, the pickmen had to seek them as they dug. For this work, the pickmen used the type of light single-tined pick developed by Mr. Delougaz for wall-tracing in Iraq.[17] Once the walls were discovered, the available plan was traced by simply picking along the walls. As one or more of the pickmen worked forward in narrow trenches tracing the walls, other, less experienced, pickmen removed the core of debris left in the center of the room. The pickmen working along the walls periodically went deep enough to expose the floor, but the general instructions were for them to remain 10 cm. (i.e., "a hand's breadth") above the floor line in the removal of debris. The pickmen removing the core of debris in the center of the room did not go below the depth set by the wall-tracers.

The completion of this first step in the routine exposed the architectural plan to within *ca.* 10 cm. of its floor and saw the removal of the main bulk of debris. All materials encountered during the first step were marked as of *x* operation, plus the serial number of the floor or level:[18] for example JK 3:6.

The next step was to clear off the remaining 10 cm. above the floor proper and to expose whatever special features (e.g. hearths, benches, etc.) appeared on the floor. When this step was complete, the operation was ready for mapping and photography. The materials encountered during this step were marked as of *x* operation, plus the serial number of the floor or level with the specification "floor": for example JK 3:6 fl.

[17] See Pinhas Delougaz and Seton Lloyd, *Pre-Sargonid Temples in the Diyala Region* (*OIP* LVIII [1942]) Figs. 103, 158.

[18] See above on the loose usage of the term "floor" *vs.* "level" in the field.

After mapping, the floor itself (plus 10 cm. below it) and the walls were removed, and the area was ready for scraping and sweeping preparatory to beginning on the next level. It will be clear that any pits, silos, or burials which were missed in the cleaning of the floor before mapping now appeared on the swept surface as intrusions into the debris of the underlying level. They were cleaned out forthwith. The materials resulting from this final step were marked as "floor," if from the floor or 10 cm. below it, or as specifically from walls or pits: for example JK 3:6 fl., JK 3:6 walls, JK 3:6 pit *x*. The potsherds from the floor and the 10 cm. below it were put in the same line in the sherd yard (see below) as those from the 10 cm. above the floor; those from the walls and pits were cleaned separately, but if found to be consistent with the sherds from the floor, they were noted with the latter.

The routine described above covered normal situations; variations were necessary for the vertical-face method of excavation in step trenches (see p. 5). It has already been noted that press of time or circumstances prevented us from applying the full routine on Tell Kurdu and Tell Dhahab. Operations on Kurdu proceeded in relation to absolute 50 cm. levels, with materials marked and sherds sorted according to the absolute levels in each operation: for example Kurdu I, 9.0–9.5 m.

As is customary in the Near East, we worked under the baksheesh system, whereby the workman, besides his daily pay, was given bonuses (baksheesh) for objects found and for work particularly well done or was fined for lack of attention, breakage, loss, etc. The individual working unit consisted of a pickman, one or two experienced shovelmen to receive and break up his dirt, and sufficient secondary shovelmen to move the dirt to the field railroad.

The potsherds were handled in the following manner.

Each pickman had a tagged basket, on which his operation and floor or level were marked. All sherds encountered were put into this basket. When the basket was full, the pickman himself carried it to the sherd yard.

The sherd yard was a large cleared area in charge of a specially trained boy.[19] Wooden tags staked into the ground indicated the lines where the sherds from various operations should be put (Pl. 4 *B*). The pickman was allowed to dump the basket only under the boy's supervision.

As soon as a level or floor was completely cleared and all the baskets had been dumped into the appropriate line, the sherd-yard boy moved a gang of women into the line to wash the sherds. As they washed, these women made an elementary sorting of the sherds (individual piles for painted wares, burnished wares; rims, bases, handles, spouts, etc. of simple wares, cooking-pot wares, etc.), so that the line, when washed, consisted of piles of the different types of sherds. The sherd-yard boy supervised this basic sorting; he also kept watch over the piles to discover restorable pots whose sherds had become scattered in their original context and hence were not encountered as a whole in the excavations.

When the washing and basic sorting of a line was completed, the field notes and field sortings and selection were made.

It was not until the last season that we realized the value of saving all the flint chips and ran them through the same routine as the sherds by instructing that they be put into the pickman's basket along with the sherds. Previously, we had taken in the flints at the time baksheesh was given on all small objects, and the chips were usually discarded without much attention, only the very obviously worked implements being saved. Processing the flints along with the normal sherd routine proved easier and at the same time allowed us to make a much more intelligent selection.

[19] In actual fact these boys probably received more attention than any of the rest of the local staff and were made useful in almost any part of the routine. During the rainy periods they were kept in the expedition house, where they were taught to mend pots and also to read and letter in Latin characters. Thus they were able not only to read the simple basket tags but also to mark the findspots on all the sherds in the selected samplings. They proved themselves well worth the effort of teaching.

Burials were given numbers,[20] and they were photographed and sketched when cleaned; objects associated with burials, *Beigaben*, were noted on the sketches as to position and were removed and registered together. We did as much as possible to conserve the bones themselves,[21] although of the twelve burials found in the earlier depths, only six were in reclaimable condition, and Dr. Krogman was able to make significant observations on only two of these.[22] The unreclaimable and unmeasurable burials, however, were mainly of infants and adolescents, whose measurements are so not significant. The dirt immediately under the skull was left as a small column, with a stake marking the spot where the skull had been, so that the position and elevation could be fixed when the operation was mapped. Either our subfloor burials were made in very shallow pits or we were not very successful in observing traces of burial pits in the cleaning process before stripping, for we had little luck in determining the depths and the points from which pits (if they really were made) were dug. Part of the explanation of this difficulty may be that in the early periods adults were habitually buried outside the dwelling areas, while juveniles (which most of our burials were) were given very shallow subfloor interments; our areas are far too restricted, however, to provide any binding evidence. As things stand, our burial registration gives the floor or level number at which the burial itself was encountered.

We attempted to clear caches (see p. 43) with all their objects left *in situ* so that sketches and photographs of the complexes could be made. A special line was established in the sherd yard for the sherds and flints from a particularized area. For large caches (of which we actually encountered none in the early ranges) we used tarpaulins to keep the dirt soft and workable for a longer time. If cache or locus nomenclature was used, it consisted simply of the operation and floor or level number followed by a diagonal and the serial number of the cache or locus: for example JK 3:13/2, where the "2" refers to the second cache or locus in JK 3:13.

Fragile nonartifactual materials (grain, charred wood, etc.) were taken up in the same manner as the small objects. Intact animal bones, antlers, shells, etc. also were taken into the expedition house with the antiquities; fragmentary items in these categories were kept in a sherd basket and were washed and put in the proper line in the sherd yard, after which a selection of samples was made. Unworked stones used in foundations and floors were usually cleaned sufficiently in the architectural clearance so that samples of unusual varieties could be noted; samples could have been saved at this point but rarely were. Unfortunately, we did not take soil or small charcoal samples in any of our operations.

The procedure for the registration and cataloguing of objects closely followed that of the Oriental Institute's Anatolian Expedition,[23] mainly because we inherited its various catalogue cards and printed forms. The daily yield of objects, after being cleaned, was entered in a register, with a serial number assigned to each object; following the serial number in the register comes a brief description of the object, its condition, and its findspot. The object itself was tagged with its number or was marked with the number in either black or white water-

[20] The burial designations consist of a letter representing the season on a particular mound (see table on p. 66), "S" signifying skeleton, and the serial number. Hence x S 10 is the tenth skeleton encountered on Judaidah in the season 1935/36.

[21] Except in the uppermost levels, the skeletal material was generally in a rather bad state of preservation, with the skulls more or less cracked or collapsed as a result of earth pressure and the articular ends of the long bones shattered. We strengthened reclaimable bones *in situ* by painting them with Ambroid (a commercial preparation resembling a solution of celluloid in amyl acetate), but, at the suggestion of Dr. Krogman, we did not attempt to remove crushed skulls by pouring wax or plaster over them. This practice has too often resulted in disaster in that loose dirt within the calvarium rattles about in shipment and may pulverize the bones or at least the surfaces of the cracks and sutures. It is now (1957) clear that the impregnation of bones with preparations such as Ambroid destroys the possibility of serological analysis.

[22] See Krogman, *op. cit.* Table II, x S 14 and x S 15.

[23] Hans Henning von der Osten, *The Alishar Hüyük, Seasons of 1930–32*. Part I (*OIP* XXVIII [1937]) pp. 15–27.

proof ink, covered when dry with a thin coat of Ambroid as protection. The number was prefixed with a letter designating the site and usually the season, thus:

a Chatal Hüyük, 1933/34
b Chatal Hüyük, 1934/35
e[24] Chatal Hüyük, 1935/36
z Judaidah, 1933/34
y Judaidah, 1934/35
x Judaidah, 1935/36
T Taʿyinat, whole campaign
D Dhahab, whole campaign
K Kurdu, whole campaign

Hence the designation "x1000" refers to the 1000th object found on Judaidah in the season 1935/36.

Certain categories of objects did not normally go through the full registration and cataloguing routine. The field samplings of potsherds, chosen in the sherd yard when the lines of cleaned sherds were examined and noted (see p. 23), arrived in the expedition house in marked sacks. During rainy periods, or when they were otherwise at liberty, the sherd-yard boys marked each sherd with the findspot of its sack in waterproof ink. Flint chips and fragmentary animal bones were treated in the same fashion; the sacks were opened at the time of division, if necessary, but the objects in these categories have never needed fuller registration than the findspots which they now bear.

THE PRESENTATION OF THE MATERIALS

It now remains to give a general statement on the procedures used and the difficulties encountered in analyzing the materials for publication and to set down definitions of the various terms and conventions which appear in the book.

The descriptive chapters on the materials by phases are constructed according to the following assemblage outline:

Introduction
Architecture
Pottery
Baked-clay objects
Metal objects
Flaked stone objects
Ground stone objects
Worked bone objects
Objects of other materials
Burials
Caches
Nonartifactual materials

Since all categories of materials are not represented in every phase, the subjects covered vary from chapter to chapter.

Introduction

The introductory section of each chapter suggests the basis for the definition of the phase and comments on the stratigraphic behavior and the apparent consistency of the materials.

The basic definitions of the phases were derived from the observed consistency of the various

[24] The gap between "b" and "e" is accounted for by the fact that M. Prost's staff (1932/33) used "CP" for pottery from Chatal Hüyük and "C" for other objects from that site. Only a few objects with "a," "z," and "y" prefixes are pertinent to the present volume; these were extrusive in post-Phase J levels (see chap. xiii).

classes of artifacts in contiguous stratification. A sequence of floors yielding a preponderance of characteristics in common was taken to make up a phase. The sherd samplings and (in the earlier ranges) the flints were usually the most critical factors in the definition of phases.[25]

The relative chronological positions of the successive phases have been fixed to the greatest degree by stratigraphy. Phases A, B, F, G, H, and I were found in undisturbed stratigraphic sequence on Tell al-Judaidah, as were Phases H, I, and J on Tell Taʿyinat. Chatal Hüyük elaborated this sequence, especially as found on Judaidah, with Phases F, H, and I in sequence. The First Mixed Range on Judaidah contained disturbed materials of Phases B (late?), C, D, E, and F in a layer fixed between the undisturbed layers of Phases B and F. Tell Kurdu yielded Phases C (late?), D, and E (early through middle?) in stratigraphic sequence. The fixing of the Tell Kurdu materials into the whole ʿAmuq sequence is only slightly less straightforward; on the basis of comparison of the materials, these assemblages must fit in with the First Mixed Range materials between Phases B and F on Judaidah, and the stratification of Kurdu itself fixes the sequence.

The question of whether or not the early part of the ʿAmuq sequence, as we offer it here, is complete depends on a different and somewhat more interpretative sort of evidence: on typology and typological sequences. A close study of the various typological sequences available (mainly the various ceramic families and the flints) in the early ʿAmuq phases suggests the following over-all evaluation of the completeness of the sequence.

1. The Phase A materials now in hand seem to attest an already maturing and stabilized assemblage of the early village-farming type of community. Relatively as simple technologically as most of the so-called "Neolithic" materials of the Near East, the Phase A assemblage as we see it has already passed the formative stages. There must be earlier manifestations of the village-farming community still to be discovered.

2. The Phase B materials now in hand seem to develop normally out of Phase A; there is no reason to suspect unconformity between these two horizons. The end of Phase B and the beginning of Phase C are not attested by the materials now in hand, however.

3. There is reason to suspect that the Phase C materials now in hand are late Phase C, since the ceramic industry has already developed to a point where local potters are making standardized copies of the imported ware (Halaf) whose first appearance has been assumed, on theoretical grounds, as defining the beginning of Phase C. Thus we have assumed, on internal grounds, that materials in the range from late Phase B to early Phase C are not yet in hand.[26]

4. The Kurdu sequence (Phases C [late?], D, E) seems typologically as well as stratigraphically complete, although it must always be kept in mind that the bulk available from both C and D is relatively minute.

5. In no place in our ʿAmuq stratification is Phase F found immediately above Phase E, but Phase E ceramic elements are part of the First Mixed Range content on Judaidah. Moreover, some of these elements, plus certain of the surface sherds from Karaca Khirbat ʿAli (see pp. 201–4), seem to indicate a stage of the Phase E manifestation not seen on Tell Kurdu. Hence the Phase E materials now in hand from Tell Kurdu may represent only early and middle Phase E, with late Phase E yet to be discovered stratigraphically (see p. 175).[27]

6. There are a few profiles in pottery which suggest a typological continuation between our

[25] Since we present the materials not by successive floors but rather in the phase groupings, the reader must trust mainly our own assessment of the "preponderance of characteristics in common" for a group of floors or layers. To have done otherwise would have called for a hopeless amount of repetition of minutiae, all out of proportion to the total reliability of the materials taken from the relatively small exposures which we made.

[26] The probability is that the still to be recovered late Phase B–early Phase C materials of the ʿAmuq are represented at Yümük Tepe (see p. 507).

[27] Such an aspect of the phase is apparently represented at Tell al-Shaikh and Tabara al-Akrad (see pp. 512–13).

Phases E and F. Otherwise, the demonstration of conformity between Phases E and F depends on comparative archeology, with the Cilician, Jazirah, and North Iraq sites pertinent,[28] as well as on the Hamah sequence. Later manifestations of Phase E and earlier manifestations of Phase F may yet be found, but we doubt that a complete assemblage will ever appear which will need to be intercalated between the two.

7. The remainder of the ʿAmuq sequence in the earlier ranges has both stratigraphic and typological continuity, and no unconformity need be suspected. Phase G has both ceramic and lithic elements which continue from Phase F; Phase H sees the addition of characteristic new items to a complex persisting from Phase G. The elements which define Phase I move in and coexist with those characterizing Phase H, and Phase J is a final elaboration of the basic Phase I criteria.

Architecture

Unfortunately the information available on the architecture of the early ʿAmuq phases is very restricted. This is due in part to the relatively small exposures made and in part to the normal accidents of deposition and of selection of sites for excavation. We must admit that some lack of information is due to oversight on our part, for we quite consistently neglected to measure individual bricks, and to the choice of excavation techniques for exploratory purposes which were not adapted to full architectural clearance. Thus the vertical-face method of operating the step trenches and the hurried digging in 50 cm. layers on Tell Kurdu did not yield the kind of architectural information which is most desirable.

The field procedure for the clearance of architecture in normal horizontally worked operations has been described above (pp. 22 f.). When a floor and its architecture were completely cleared they were mapped with a plane table and a telescopic alidade at a scale of 1:100. The final drawings were made at the same scale and are reproduced here at 1:200. The following conventions may be noted.

The boundaries of the trench or cut are always given. In a trench taken to any depth at all two boundary lines are usually shown; the outer indicates the size of the cut at the surface, and the inner indicates the size of the cut at the floor which is illustrated.

The plans include lines of reference to the grid systems or the bench marks which allow the positions of the areas to be fixed in relation to the plot plans of the mounds. Unless otherwise indicated, all plans and plot plans are oriented with north toward the top.

The plans include all available architectural details, also traces of disturbed areas, wells, and pits which extended from higher to lower levels. These may, of course, also be noted by comparing plans with sections.

Mud-brick (*libn*) walls are shown with indications (not to measurement) of brick joints (see e.g. Fig. 169).

Plain mud walls (*tauf;* otherwise known as "pisé"), sometimes used for bins or as silo-facing, are shown without indications of joints (see Fig. 198, lower right corner).

Stone-founded brick walls are shown with the edges of the stones outside the line determining the face of the brick (see e.g. Fig. 263). Stone foundations may be seen more readily in the sections, however. Stone foundations above which the mud brick had disappeared are indicated (individual stones not measured) as they were found. There is, incidentally, no evidence for full stone-built walls in the early ʿAmuq ranges.

Plastered walls are indicated with a double line for the plastered face (see e.g. Fig. 263).

[28] As these sites are now published it is not easy to assess the typological continuation of materials from ranges equivalent to Phases E and F. Hence, it is not absolutely certain that unconformity does not exist in their sequence as well, and the sites which cover this range in a really bona fide sense are few. We are most impressed by the materials pertinent to this range from Gözlü Kule (Tarsus), which we had the good fortune to be able to examine with Dr. Hetty Goldman and Dr. Machteld Mellink. Otherwise, only Tepe Gawra seems to have adequate substance so far. See now pp. 512–13.

Accessory features—hearths, ovens, benches, bins, etc.—are drawn as they were found (see Fig. 263). Larger-scale drawings of important accessory features, with suggested restorations, are presented separately. Accessory features covered with marlaceous plaster are stippled (see e.g. Fig. 263, features 6 and 9).

The extant heights of walls and accessory features are indicated by shadows. The length of the shadow indicates the extant height of the feature. Heights and depths are of course indicated in the sections also.

Plain earth floors are left unrendered; for example, Figure 266 shows plain dirt floors both inside and outside the rooms on the east. Pebble and cobblestone floors are indicated by light sketches of pebbles or stones (see e.g. Fig. 263). Floors covered with marlaceous plaster are stippled (see e.g. Fig. 263).

The locations of burials and important caches are shown on the plans and sections, with the approximate positions of the skeletons indicated (see e.g. Fig. 39, x S 21).

The maps done in the field showed not only the plans; all features were provided with notes on elevations, established by backsights with the telescopic alidade. These elevations do not appear on the final maps but are replaced by the shadows which indicate the heights and depths of the various features and by the sections. Ideally, the architectural drafting necessary to prepare a working section should have been done in the field, so that the drawing could be checked by comparison with the trench face. Actually, the sections were worked up in Chicago. The section drawings presented here are true sections showing the features cut by and those beyond a vertical cutting plane along a given line of reference. The sections are reproduced at the same scale as their corresponding plans. They are provided with vertical scales indicating the elevation above sea-level (save where the survey was done only with a Brunton compass; see p. 22).

Where evidence affords it there is a general treatment of the plan concept of the living units. Unfortunately our exposures in the early phases seldom do afford it. And in no case are our exposures sufficient for considerations of the circulation, orientation, and the various architectural components of the whole village plan.

The operations for which plans and sections are given may be located on their respective mounds by means of the plot plans of the mounds (Figs. 2, 4, 8, 12, 13). The plot plan indicates the position of the operation not only in terms of the whole mound but also in relationship to sources of water, arable land, and the topographical features which probably determined the location of roads leading to and from the mound in ancient times.[29]

Pottery

The basis for the classification and description of the pottery rests in the field sortings of the sherds. The field routine for the handling of potsherds has been described above (p. 23) up to the point of the selection of the samples in the sherd yard.

From our first season we were convinced that, as well as a full classification and description of the ceramic families involved in a phase assemblage, some expression of their frequency or quantitative strength would be most desirable. Consequently, we gave some thought to establishing a practical means of arriving at such an expression without allowing the means to overwhelm us.[30] The routine we decided upon was as follows.

[29] The general topographical character of the area surrounding the mounds is given by the 1:100,000 maps in our *Survey* and by the official maps described there (see p. 2, n. 1): e.g., Service Géographique de l'Armée (at Beirut), (*Carte générale du*) *Levant—1:50,000*[e]; Travaux du Cadastre ... (at Beirut), *Plaine de l'Amouk*, 1:40,000 and 1:10,000. See also the geological maps by Max Blanckenhorn, *Geognostische Kartenskizze von Nordsyrien*, 1:500,000 (Berlin, 1890), and Louis Dubertret in *Revue de géographie physique et de géologie dynamique* VI (1933) Pl. A, 1:100,000.

[30] The obvious and straightforward method of arriving at quantitative expressions of materials is to count them all; see e.g. D. A. E. Garrod and D. M. A. Bate, *The Stone Age of Mount Carmel* I (Oxford, 1937). Seton Lloyd and Fuad

The pertinent line of potsherds in the sherd yard having been sorted into piles (see p. 23), we examined the piles from the point of view of the variety of ceramic families or wares which they contained. We think of a "family" or "ware" as the product of a particular tradition of craftsmanship, in which the forms, the surface treatment or decoration, the preparation of the fabric, and possibly the clay itself are essentially uniform over a given geographical area in a given range of time.[31] The various wares in the line became apparent on close inspection; actually, most of the lines contained predecessors of wares occurring in the immediately overlying levels, so that the variety to be expected had already become apparent. In the second place, the sorting and detailed notation of the line was usually postponed until there were several successive lines from the underlying levels, so that a cursory examination of all of these indicated the way in which the pottery was developing. Our field sorting consisted of making field notes of the ceramic content of a pertinent line and selecting sample sherds representing all the families or wares and all the profile and decoration types which each of these contained. This selection was done with the idea of (1) reducing the bulk of potsherds to be sent to Chicago to 10% of the original bulk in the sherd-yard line, with the original proportions maintained, and (2) choosing the "extremes" as well as a small variety of the "means" in each type of each family. Obviously, there is no true middle ground between objectivity and subjectivity in such a method; either the total sherd bulk of the line had to be counted and reduced numerically to 10% (which for reasons given above we were not inclined to do), or the proportionate reduction to 10% had to be done by eye.[32] We followed the "by-eye" method; we fully realize that it is not truly objective, but we do not offer sherd counts in a form which need be misinterpreted as objective (see pp. 30 f.). As explained above, we are not convinced that objectivity in numerical counting would necessarily lead to foolproof results when the factors of area exposed, natural accidents of deposition and excavation, variable fragility of different wares, etc. must still qualify the result.

Physically, the "by-eye" selection was done by spreading the sherds in the individual piles in a line over enough ground so that each sherd could be easily seen. Next, each pile was examined separately, and the samples were chosen and placed in front of the pile. At this point, an over-all look at the selected samples as against the main piles gave an impression as to

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Safar in "Tell Hassuna" (*JNES* IV [1945] 255–89) elaborated on our suggestion of a test sherd count by making a more or less complete sherd count. For our operations in the ʿAmuq this method had several disadvantages:

Considering the sherd bulk with which we were usually working, we would have spent much of our time counting potsherds. This objection did not apply to the smaller operations, however, where a complete count would have been possible.

We believe a full count would have expressed greater accuracy than our contexts justify. When applied to materials derived from the total or almost total area of an occupied cave or simple village site a full count would have meaning. When applied to a base cut or test trench, located for convenience in dumping debris or for getting at the lowest layers of a mound in its present-day conformation, a full count might express the condition in an atypical rather than a typical area.

Full counts of potsherds, even provided that the original classification into families before the counting began was exact, might weight the count heavily in favor of large friable jars which yield many pieces when broken. The result would be somewhat lopsided, though not disastrous. Restricting the count for such classes of pottery to sherds from rims, bases, or secondary features might be more reliable.

[31] In several cases Matson (see p. 31) found that wares which we had set up on the basis of consistent forms plus clay plus surface treatment, decoration, and secondary details (base, handles, etc.) were in fact not always made of clay from one source alone (see e.g. pp. 49 f.). However, we tended not to attempt over-refinement of classification in such cases and let the material stand in one category on the basis of the other similar traits.

[32] It has been suggested that the "random sample" method of the statisticians could have been used. We do not believe that sherds from one small exposure of uncertain typicality make a sufficiently reliable "universe"; moreover, we would have been very loath to disregard useful specimens not included in the random sample. It is conceivable, however, that this method could be significant in establishing quantitative proportions in sherd samplings originating from several operations in the same phase (on the same site), and it need not, of course, preclude descriptive attention to specimens in the sherd bulk which are not part of the random sample.

whether the proportionate reductions seemed to be approximately correct.[33] When the impression of proper proportion was achieved, the field notes were made and the selected sherds were put together into a marked paper sack. Later, in the expedition house, the sherds were individually marked and put into cloth sacks for shipment to Chicago.

In Chicago the processing of the pottery for publication proceeded on the basis of the following materials:

1. The field notes, which provided an unrefined but essentially complete foundation for the classification of ceramic families or wares and their main types. This foundation was integrated with the idea of the assemblages of the successive strata, although the fully defined "phase" terminology was yet to be worked out.

2. The cloth sacks containing the field sortings from each level of each operation. These could now be treated chronologically from early to late, since the stratification was already known or there was a reasonably accurate idea of the relative position of, for example, the Tell Kurdu material on typological and comparative archeological grounds.

3. The catalogue of whole, complete, and reconstructible pots, as well as the Oriental Institute's share of these pots themselves. Since over 500 vessels were catalogued in the field for the range of Phases A–J, the preparation of the catalogue had contributed to the "foundation of the classification" mentioned above, but we were naturally familiar with the evidence for a great variety of types of pottery from sherds for which no examples in the whole-reconstructible category had been reclaimed.

In arranging the pottery for publication we chose to make the field sortings the basis for description. In the following chapters the various wares are described and classified mainly from the potsherds of the sortings, with the whole-reconstructible pots from the field catalogue providing a basis for elaborating the description wherever examples are available.

The major unit of the classification is the ware or family.[34] As follows from our definition of "ware" (see p. 29), its description must include the following:

1. The clay or paste and all the aspects which it involves—inclusions, texture, completeness of oxidation and heat of fire, color, surface finish (in the nondecorative sense).

2. The profiles or forms of the vessels themselves, including all secondary or added features (in the nondecorative sense) such as spouts and handles. It is this aspect which usually determines the general notion of the type of a pot within a given ware.

3. The decorative treatment, if any.

The following more specific information is offered so that the reader may understand the terminology and conventions used in the presentation of the pottery.

THE COUNT

It has already been described how the count is based on the field sortings, which are "by-eye" proportionate reductions of the total sherds of any findspot to 10% of the original bulk. Once the range of findspots which represent a phase had been set and the different wares characterizing the phase had been isolated, the sherds of each ware could be counted. Whole

[33] There is one important qualification to be made to the proposition of a reduction of sherd bulk to 10%. In the case of small groups, especially those with painted decoration, we quite naturally did not discard sherds with significant profiles or motifs simply to achieve 10% of the original bulk. In these special cases, we took all the significant examples. Hence, the percentages expressed in the phase chapters for certain small groups (e.g., the Halaf groups in Phase C and the First Mixed Range) are proportionately higher than is numerically correct. See below, however, for the manner in which allowance is made for this factor.

[34] The names assigned to the wares in the ʿAmuq sequence are merely convenient handles; they are supposed to express the most characteristic feature of their respective wares in two or three words, but are not in any sense fully descriptive. The "characteristic feature" is in the fabric and surface treatment or decoration, never the profile.

pots are not included in "total selected field sampling of . . . sherds." The total of the resulting counts gave the sum to be used in computing the percentages expressing the proportionate strengths of the wares which characterize the phase.

Owing, however, to the subjectivity which entered into making the field selections (see p. 29 and n. 33), the total counts and the simple percentages give an impression of numerical accuracy which is not justified. What is actually present in the description of the pottery of each phase is the following:

1. The total sherd sample taken in the field, plus the whole-reconstructible pots available. The formula used for expressing the sherd total is "total selected field sampling of . . . sherds." Theoretically, this total multiplied by 10 should give the approximate number of sherds which appeared during all the operations involving the phase.

2. The percentage proportion of each ware which characterizes a phase, expressed in terms of a range of 5%. Thus for example in Phase A, where there are only three wares available, the percentages are expressed as:

Coarse Simple Ware	8–13%
Dark-faced Burnished Ware	79–84%
Washed Impressed Ware	5–10%

It is our opinion that neither the sherd total nor the percentage ranges are of such quality as would make further mathematical manipulation desirable. We feel that an approximately accurate expression of the proportionate strengths of the different wares in each phase is available, together with the size of the series on which the expression is based. The material in hand does not justify anything beyond this approximation to accuracy.

THE CLAYS

For the descriptions of the clays we were particularly fortunate in having the professional collaboration of Dr. Frederick R. Matson, Professor of Archeology, Pennsylvania State University.[35] The clays are therefore described from two aspects:

1. The gross or megascopic examination, which we made ourselves with the aid of very simple testing devices and which followed the general lines of Anna Shepard's suggestions for technological analysis to be done in the field.[36]

2. The microscopic and technical analysis, performed by Matson in his Ceramic Repository laboratory. A summary of his findings on each of the wares which he examined appears in small type in the pertinent place in each of the phase chapters.[37]

The gross examination of the clay of a ware was made on the basis of at least 100 potsherds, whenever possible. The information was entered on the following form:

[35] At the time the arrangement was made, Dr. Matson was in charge of ceramic analysis in the Ceramic Repository of the Eastern United States, under the administration of Dr. Carl E. Guthe, of the Museum of Anthropology, University of Michigan. Dr. Guthe, on the part of the Ceramic Repository, most generously assumed half the expense involved in the study. Unfortunately the Oriental Institute could not at the time guarantee its full share ($250.00) of the estimated cost, so that it was necessary to make the study less complete than was originally planned. After consultation with Dr. Matson, we concluded that the best course would be for him to complete his study of the various large (i.e., proportionately numerous) and apparently indigenous ʿAmuq wares, and thereafter to do as many of the important smaller groups as possible.

[36] See Alfred Vincent Kidder and Anna O. Shepard, *The Pottery of Pecos* II (New Haven, 1936) esp. pp. 444–45.

[37] The reader will notice some discrepancies between our gross examination and Matson's microscopic examination. In such cases, it is of course Matson's opinion which should be given weight. We did not adjust our descriptions to fit Matson's for two reasons:

1. The differences illustrate wherein the more cursory type of field examination may be in error.

2. So few microscopic examinations are yet available that it seemed best to let our megascopic descriptions stand as we took them, since they will be more generally familiar.

PERIOD.....
FAMILY.....
NUMBER EXAMINED.....

SYRIAN EXPEDITION
DESCRIPTION OF WARES
FROM SHERDS

(on basis of color and warpage only)
Handmade..... Wheelmade..... Fire: Light..... Medium..... Heavy.....

Paste: Color range: Light..... Normal..... Dark.....
Proportion of core left dark by underfire .....

Inclusions: Mineral..... Vegetable..... Other.....
Color of the inclusions .....

Inclusions: Sparse..... Medium..... Heavy.....
(= diameter of inclusions)

Texture: Fine.....under 0.33 mm. Medium.....under 0.66 mm. Coarse.....under 1.00 mm. Very Coarse.....over 1.00 mm.
Granular..... Laminated.....
Dense..... Friable.....

Hardness.....
Fracture: Straight..... Irregular..... Smooth..... Rough.....

Surface: Color range: Light..... Normal..... Dark.....
Luster: Dull..... Medium..... High.....

Texture: Smooth..... Rough..... Granular.....

Treatment: None..... Wet-smoothed..... Self-slip..... True slip..... Wash..... Glaze.....
Burnish etc. .....

Condition: Even..... Uneven..... Abrasion..... Peeling..... Crazing..... Spalling.....

Paint etc.: Color range: Light..... Normal..... Dark.....
Luster: Dull..... Medium..... High.....

Organic..... Thick..... Non-penetrating.....
Inorganic..... Thin..... Penetrating.....
Evenness: Color change.....

Other decoration: Punctate..... Incised.....
Impressed..... Modeled..... Other.....

Remarks:

Most of our terminology follows Miss Shepard's usage, but we have adapted some terms to definitions of our own for greater convenience or usefulness in treating Near Eastern materials. The following remarks explain our usage.

1. All statements are based on observations and judgments formed by viewing the sherds in numbers as well as individually.

2. The distinction between "handmade" and "wheelmade" pottery is based on the absence or presence of horizontal striations and the degree of uniformity of wall thickness.

3. The term "fire" refers to the apparent heat of firing as revealed by the sherds and is not related to absolute temperatures. It is assumed that brownish or reddish clays imply a lower firing temperature than light or greenish-buff clays; that unoxidized cores imply lower temperatures; and that badly warped and greenish almost vitrified examples result from the higher temperature ranges. Some wares characteristically have dark central cores and lighter buffish outer layers as a result of underfiring. According to Matson, there may be other causes for dark cores.

4. After some thought, we decided not to follow Miss Shepard in the matter of reference to a standard color scale. The fact that body as well as surface coloration may change considerably from one part of a pot to another, that there may be considerable color variation in a fair-sized sampling of sherds, and finally that color plates are included in this report inclined us toward a simple "by-eye" terminology. We speak only in terms of the primary colors, with the exception of the term "buff," which we use very commonly.[38] It will be noted that there is always an attempt to express a range of color variation. In our minds, the sherds shown on Plates 83:1 and 84:6 are typically orange-buff; those on Plates 83:5 and 89:1, buff; and those on Plates 83:2 and 86:3, greenish buff.

5. The physical appearance of the inclusions was ascertained by observing fresh breaks in the sherds with a low-powered glass. Thus the apparent structure (pebbles, sand, grains, crystals, etc.) and the color of the mineral inclusions are noted; of vegetable inclusions usually only the impressions remain. In addition to mineral and vegetable inclusions we noted only shelly material.

6. The texture of the clay is described in several ways.

The concentration of inclusions—"sparse," "medium;" or "heavy"—was determined by use of a simple graph (Fig. 16) which gives a visual point of reference of percentage by volume in a unit area for two different sizes of subunits. From 0 to 15% is considered sparse; 15–30%, medium; over 30%, heavy. Comparisons between the graph and fresh breaks in the sherds, seen through a low-powered glass, led to the expressions given, which appear in terms of such and such a proportion of the different types of concentrations observed in the sherds of the unit sampled.

The sizes of inclusions, as seen in fresh breaks in the sherds, are expressed in terms of the diameters of the largest pieces of the apparently normal inclusions.[39] These diameters were measured under a low-powered glass against a gauge with tines 0.33 mm., 0.66 mm., and 1.0 mm. wide (Fig. 17) and provided the basis for the terminology "fine," "medium," "coarse," and "very coarse." The proportions expressed are for the number of sherds in the sampling which fall in each size category.

For other features of texture our form follows Miss Shepard's definitions. Texture as affected by the shapes of the inclusions is described as "granular" or "laminated"; texture as affected by the character of the clay, as "dense" (i.e., fine, compact; chips rather than crumbles when broken, leaving a smooth fracture) or "friable" (i.e., finely granular; crumbles when broken; fractured surface is earthen). The character of the fracture—"straight" or "irregular," "smooth" or "rough"—is influenced by texture. As to hardness, we did not use Moh's scale in the gross examination; our references to hardness are only occasional and then only relative to one or another of the wares in the ʿAmuq series.

7. Surface features are expressed in terms of condition, color range (see item No. 4 above), luster and texture in Miss Shepard's sense, and surface treatment. Under the last heading come the various types of specific surface treatment or lack of it (i.e., "none"). "Wet-smoothed" is self-explanatory; the implication is that the potter dipped his hands in water several times and smoothed the newly built pot. "Self-slip" is a thin layer of clay which is finer and probably of a different color than the body clay but which merges imperceptibly into the body clay. The term is not widely used, but we believe the distinction between "self-slip" and "true slip" is useful.[40] "True slip" is a separate application of a fine clay suspended in water. The color of

[38] For "buff" we use the definition, "yellowish red-yellow in hue, of medium saturation and high brilliance," of *Webster's New International Dictionary of the English Language* (2d ed., unabridged; Springfield, Mass., 1935).

[39] Now and then a fresh break shows a large pebble which is incongruous with the sizes of all other visible inclusions. Such cases are assumed to be accidents.

[40] In a forthcoming article on various modern potteries and their methods Matson and Braidwood will describe a self-slip on the basis of observations which preclude any doubt as to the way the surface film was achieved. The Latikia pot-

the slip may be appreciably different from the color of the body clay, and the slip may have a tendency to peel because of lack of bonding action.[41] "Wash" is a more or less allover application of any relatively pure pigment in suspension (probably aqueous) and containing little or no clay. Obviously, isolated bands or patterns of such a pigment (or of an ocherous clayey solution) are described as paint. "Glaze" has no use in this volume, although there are some cases of an apparently fused type of surface film with a luster not dependent on burnish.[42] "Burnish" describes surface treatment with a smooth tool of some sort after the clay had become "leather hard." With the proper pressure on the tool, the effect was to compress and to

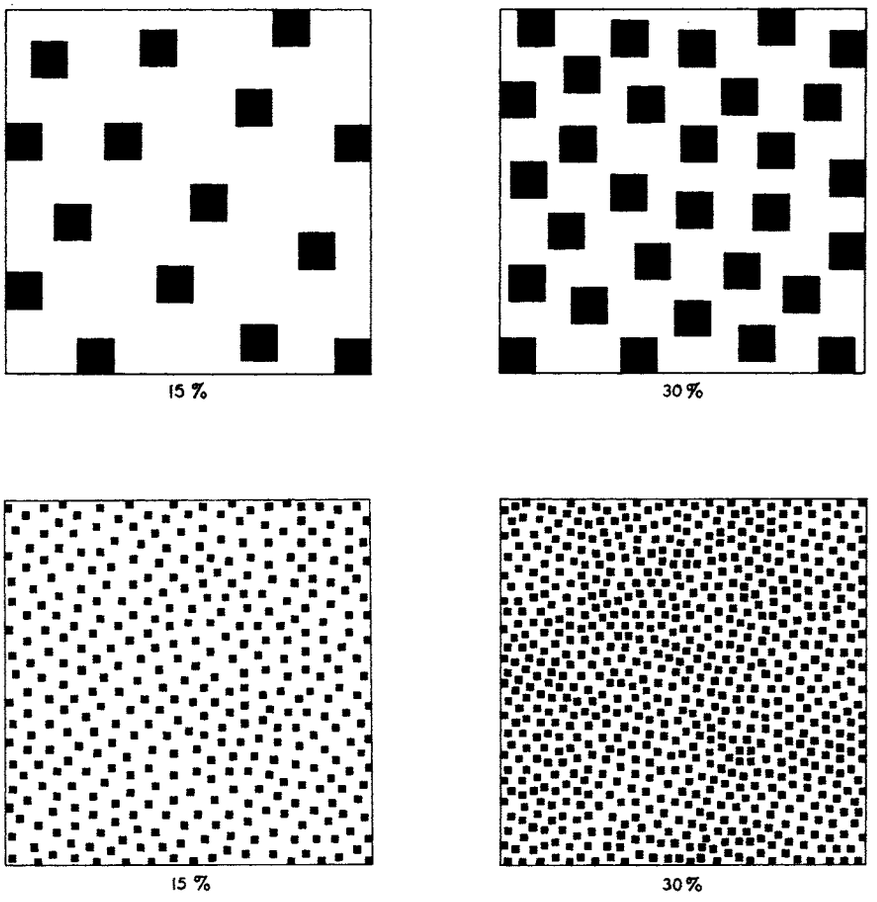

FIG. 16.—GRAPH FOR DETERMINING CONCENTRATION OF INCLUSIONS IN POTTERY

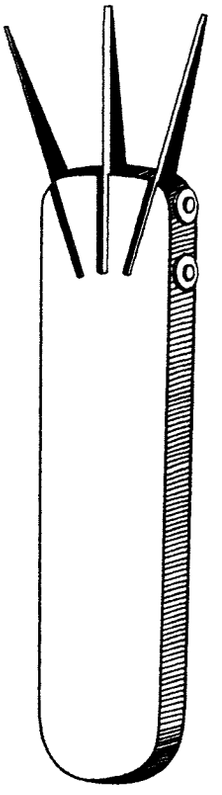

FIG. 17.—GRIT GAUGE

smooth and even to some extent to polish the surface. Thus traces of the individual strokes of the burnishing tool can usually be observed; they seem to depress the surface slightly, make it darker or more vivid in color, and give it a slight luster. In Matson's opinion (see p. 361) the really brilliant luster of the Red-Black Burnished Ware of Phases H–I is due to some additional polishing agent.

The condition of the surface is described in Miss Shepard's terminology. "Even" and "un-

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ters simply wet-smoothed their pots; the significantly finer and lighter-colored outer layer of clay apparently resulted from a sort of floating-out of the finer clay particles to the surface.

[41] For a seemingly well bonded slip of the same character as the body clay we are frustrated as to terminology. From observing the effect we use the term "self-slip."

[42] See e.g. the Phase D Wiped-Burnish Ware (pp. 160-62).

even" are self-explanatory; "abrasion" implies the wearing-away of a soft surface clay or slip; "peeling" is the cracking or loosening of a poorly bonded surface layer; "crazing" is the formation of a network of fine cracks by contraction; and "spalling" is the deep flaking of spots on a surface because of the explosion (under firing) of inclusions or steam bubbles.

8. The terminology as regards paint and other decoration is for the most part self-explanatory. In the gross analysis we did not test for organic as against inorganic paint, assuming that most of the solutions used were probably ocherous. The more specialized terminology for certain decorative treatments is discussed under decoration (pp. 36 f.).

THE FORMS

The presentation of the forms of the pottery vessels is done mainly by drawing and photograph. Hence certain of the conventions used in the illustrations need explanation.[43]

Whereas an individual ware is named by reference to some characteristic feature of the fabric and surface treatment or decoration (see p. 30, n. 34), the types within a ware are usually based on profiles. We often use the term "profile series" to denote all the different types of profiles within one ware. For the sake of consistency and convenience we have followed a certain sequence in the arrangement of the drawings of the types within a profile series, as regards both whole or reconstructible pots and sherds. This sequence amounts to an informal system.[44]

Profiles are arranged in the following order: plates, saucers or low bowls, bowls, hole-mouth vessels, low-collared jars, high-collared jars, bottles (i.e., jars which could only contain liquid), pitchers, goblets and other specialized drinking vessels, kraters, miscellaneous forms such as pot-stands, lids, lamps, etc.

Within each profile, arrangement is in the order of size: miniature or toy, one-hand size, two-hand size, two-man size, and immovable, all with the implication of the force necessary to handle a vessel filled with water or grain.

Several more detailed sequences could be used within the size groups if desirable. We use only the following base sequence, for the arrangement of sherds: round or rounded or pointed bases, flat or flattened bases, simple ring bases, higher ring or pedestal bases, miscellaneous or eccentric bases.

The conventions used in the drawings, as they pertain to form, are as follows. The true sections of the pots appear to the left of the axial line; the sherds, on the other hand, are all oriented as if they were on the right of the axial line. The reading of the rim-sherd drawings in their proper orientation is facilitated by the use of short snap lines—horizontal tangents drawn to the left of the uppermost surface of the lip, that is, on the inside, and meant to convey an illusion of "insidedness." The true section of a sherd is delimited by a heavy line; all other lines, such as snap lines and lines indicating significantly sharp changes of plane, are light. If the true section of a rim sherd is taken through a handle or blob, the heavy line of the true section follows the profile of the handle or blob, and the profile of the pot itself is indicated by a light broken line (e.g. Fig. 22:19). If, on the other hand, the pot was encircled by some sort of raised band of clay, the true section line follows the profile over the band and no broken

[43] The main method of visual documentation of the pottery is by drawings, which are shown as text figures. Plates 11–46 and 80–89, supplementing the text figures, show examples of various wares which were selected to illustrate texture, tone, and quality of execution. Therefore the phases in which the examples were found are not indicated on the plates; a few examples which were found out of context were used because of their typicality.

[44] We are, of course, familiar with several formal systems for the arrangement of pottery, one of the most recent being that of Delougaz in *Pottery from the Diyala Region* (*OIP* LXIII [1952]). In our opinion such systems are too inflexible, and the originators invite the danger of becoming so entranced with the ingenuity of the systems that the means obscure the ends. We believe Delougaz' scheme for determining a size sequence (*ibid.* pp. 18–19) is sufficiently flexible to be very useful, and we have taken the liberty of borrowing it. Otherwise, there is nothing particularly new in the informal system we use, and its mechanics will not be apparent in any part of the volume save here.

line is drawn (e.g. Fig. 22:17). For loop handles, a plan section is shown immediately to the right of the portion of the handle where the section is taken. In certain cases it seemed wise to show plan views of ledge handles (e.g. Fig. 22:19). For ledge-type handles on vertical-sided vessels, the drawing to the right of the section is a true plan view with the ledge or lug shown as projecting beyond an arc which describes the circumference of the outer lip of the pot. In a few cases (e.g. Fig. 285:43) a plan view of the base is included to demonstrate some constructional or decorative feature; partial plans of rims (e.g. Fig. 113:15) are used mainly to show decorative features.

The sherd drawings are provided with indications of diameter whenever possible. These are the numbers which appear immediately above the outer lip of rim sherds, immediately below the outermost flare of bases, or opposite the pertinent projection of body sherds. The diameters are given in millimeters and were determined by a simple calibrated graph of concentric circles, against which the arcs of the sherds were tested visually. All such diameters are of course only approximate; those which are followed by a question mark are especially so and usually refer to sherds with too short an arc for adequate testing. In the case of some sherds of small pots, a light dash-dot axial line is shown instead of the diameter number (e.g. Fig. 26:11).

Besides the serial numbers centered below the individual items, letters appear on text figures which illustrate sherds from more than one site (e.g. Fig. 273); the letters are abbreviations of the site names and indicate where the sherds were found. Certain figures showing First Mixed Range sherds (e.g. Fig. 90) include stray sherds from floors above the First Mixed Range (see p. 104); italic numbers identify these floors.

For rim and base sherds (e.g. Fig. 77:6) simple reconstructions are suggested by light broken lines.

THE DECORATION

In general the delineation of most types of simple decoration on pottery vessels might be called direct unrolled projection. Thus painted (e.g. Fig. 224:1–19), impressed (e.g. Fig. 21:11–12), or applied (e.g. Fig. 40:13) decoration is usually rendered simply by an unrolled strip of the decoration, to the right of the section if the decoration is on the outer surface, to the left if it is on the inner. It is obvious that for decoration on markedly curved surfaces, direct unrolled projections involve a significant degree of distortion,[45] being vertically compressed and horizontally elongated in the lower and upper portions. In many cases of complicated decoration, however, the sherds themselves are drawn in true elevation (e.g. Fig. 343:9) without respect to original orientation.

For painted pottery involving only one type of paint the drawings indicate the painted areas or motifs in solid black, except where the paint has flaked off or has been eroded (e.g. Fig. 279:3). Intentionally bichrome painted decoration, effected by two different solutions, is indicated by solid black for the predominant paint color and fine hatching for the secondary color (e.g. Fig. 158). The terminology used in the descriptions of painted motifs is mainly self-explanatory.[46] A "band" is a simple stripe which completely encircles a pot in the horizontal sense. A "line" is a discontinuous stripe, usually straight, which may be used in the vertical, horizontal, or oblique sense. A "zone" is an encircling frieze, usually composed of bands inclosing some form of filling. For individual motifs, we have attempted to use standardized geometrical terms as much as possible. The same terminology applies to other types of decoration.

Reserved-slip decoration is rendered by wash drawings in tones of gray for sherds (e.g. Fig. 218) and by stippling for whole or reconstructed pots (e.g. Fig. 219).

[45] The point will become most obvious if the reader will recall the distortions characteristic of Mercator's projection of the globe.

[46] See our terminology in *JNES* III 57 ff.

Washed surface treatments are indicated by a screen, as in Figure 345:6, where the "smeared" effect is indicated by voids in the screen.

Impressed or incised decoration and plastic decoration are rendered by simple shading in the sherd drawings (e.g. Fig. 49).

Seemingly intentional corrugations (i.e., not simply the normal effect of preparation on the wheel) are indicated by fine horizontal lines, which are spaced so as to illustrate the approximate size of the corrugations (e.g. Fig. 312:20, 24, 26–28).

Various techniques are used to suggest the several types of decorative effect achieved wholly or in part by burnishing. We do not consider over-all burnishing of a vessel as decoration; such vessels are assumed to have been so treated for utilitarian reasons. However, where burnish is present, but not over all surfaces easily reached with the tool, we assume that it was intended for decorative effect. In such cases the burnished areas are indicated in the following manner in our drawings. Fine horizontal lines (either solid or broken) next to the sections show the approximate edges of the burnished areas,[47] with small arrows indicating whether the burnishing is above or below the lines. For example, Figure 105:3 has a band of burnish around its rim which commences *ca.* 35 mm. below the lip on the outer surface and ends *ca.* 45 mm. below the lip on the inner surface. Figure 105:1 has burnish which covers all the available outer surface, passes over the lip, and ends on the inner surface *ca.* 10 mm. below the lip. The broken horizontal line indicates that the exact point where the burnish ends on the inner surface is not clear.[48] Sometimes the burnish begins *ca.* 10 mm. below the lip on the outer surface and continues over all the available inner surface (e.g. Fig. 105:4, 7, 13). There are a few cases (e.g. 205:3, 12, 13) where the arrow indicating burnish is shown alone; this means that all the surface to which the arrow refers is burnished but we are not certain whether all the original pot was burnished. At two different ranges in the ʿAmuq sequence there is a more truly decorative treatment effected with a burnishing tool; this we call "pattern burnish." Pottery treated in this manner is illustrated with pencil renderings (e.g. Figs. 81 and 233:2, 4) which give a very satisfactory impression of the effect.

In the drawings of the Bed-Black Burnished Ware of Phases H–I the gray portions indicate the red areas and the black portions indicate the original black.

In conclusion it may be noted that specimen collections of the earlier ʿAmuq wares have been exchanged with the following institutions: University of Arizona Museum, Bryn Mawr College, Danish National Museum (Copenhagen), Institute for Advanced Study (Princeton), Institute of Archaeology (Liverpool), Institute of Archaeology (London), Iraq Museum (Baghdad), Johns Hopkins University, Logan Museum (Beloit, Wisconsin), University of Michigan Museums, Peabody Museum (Harvard University), University Museum (Philadelphia), Urgeschichtliches Institut der Universität Wien (Austria), University of Sydney (New South Wales).[49]

Other Categories of Objects

The sequence for the discussion of the various small object categories, which follows the pottery in each phase chapter, is indicated on page 25.

[47] As regards pottery not completely burnished, the burnished areas always encircle the pots with respect to the main vertical axis. In some cases the individual burnish strokes were radial (i.e., in planes passing through the vertical axis), but the areas burnished are encircling areas, in the horizontal, "banding," sense. Thus it is possible to indicate where bands of burnish treatment begin and end by lines of reference against the sections.

[48] In a ware which is not generally characterized by decorative burnishing, we would ignore such a case on the assumption that the burnishing on the inner surface had simply been worn away through rough usage. In this particular ware, burnish may actually have stopped just below the inner rim.

[49] It is hoped that further exchanges may be made, especially with museums abroad. Interested institutions should correspond with the Curator of the Oriental Institute Museum.

The specific descriptions are cast in the generally accepted terminology as regards utility. Unless we make qualifications to the contrary, it may be assumed that we accept the utilitarian implications of the terms used, within reason. Hence, for example, the term "spindle whorl" (or simply "whorl"), as we use it, means that we subscribe to the general notion as to the utility which these objects had. In cases where the imputed utility of some term seems less certain, we set the term in quotation marks.

In the preparation of the drawings we have attempted to achieve a suitable type of rendering for each of the categories of materials. Sections of pertinent details are supplied. The drawings, and some necessary photographs, are included in the text. Photographs of the main types in each category appear at the end of the volume in Plates 48–78, where the arrangement is based on typology rather than chronology; the letters set to the left of the individual items indicate the phases which they represent. In any series of objects illustrated by a drawing of the type object alone, or by the type object and one or two of the important variants, an attempt has been made in the text to express the size limits of the most critical dimension or dimensions of the entire series. In principle, dimensions of individual objects are not given, since these may be taken from the scale drawings. The following abbreviations are used when dimensions and in some cases weight are given:

d. diameter
h. height
l. length
w. width
b. breadth
t. thickness

Save in a few obvious cases, always taken along axes conceived of as lying in the planes of orthographic projection. The greatest available dimension within the pertinent plane is the one given.

gr. greatest — Prefixed to any one of the above-mentioned determinates when the dimension is taken more or less obliquely to the planes of orthographic projection and most commonly used in connection with figurines.

wt. weight

In the case of each category where we were fortunate enough to enlist the aid of specialists for the identification or analysis of the basic materials, the findings of the specialists are included in the pertinent sections. Special studies of procedures and details by the specialists are to appear subsequently in a volume of technical reports. The names of the contributing specialists are listed on pages 44–45.

BAKED CLAY

Remarks on the clays of which the objects were fashioned are based solely on megascopic examination, which was done in the same manner as that outlined for the pottery (see pp. 31 ff.). In most cases these clays conform to clays of contemporary vessels, and references are simply made to standard wares.

METAL

Spectrographic and metallographic analyses were made by Drs. Norman Nachtrieb and Joseph Burke, of the University of Chicago Institute for the Study of Metals,[50] for all objects where analyses were practicable. The spectrographic analyses were actually made by Mr. Lawrence J. Howell under Dr. Nachtrieb's direction. At the end of each metal section is included a brief tabulation of the concentrations of elements in terms of "major" (more than 10%), "strong" (1–10%), "minor" (0.1–1%), and "weak" (less than 0.1%). The full report will appear in the volume of technical studies, where it is hoped that all the traces in the spectrographic analyses may be put to more sophisticated use.

The technological terminology used in our own descriptions is essentially that of V. Gordon Childe, *The Bronze Age* (Cambridge, 1930).

[50] Dr. Burke is now with the laboratories of the General Electric Company at Schenectady, New York.

FLAKED STONE

We are exceptionally fortunate to have had the bulk of the flint and obsidian artifacts studied and reported on by Mrs. Joan Crowfoot Payne. Her excellent and comprehensive report on the flints of Judaidah was written in 1938, when the old Judaidah "period" terminology prevailed (see p. 11) and before the early materials from Tell Kurdu and Tell Taʿyinat had been excavated. During the war it was unfortunately out of the question to send the flints from the latter sites to Mrs. Payne, in England, for study. Thus it became imperative for us to study these flints ourselves. After the final "phase" terminology was set up (see p. 4), some minor changes in Mrs. Payne's original manuscript were required (see p. 525, n. 1).

Since Mrs. Payne's report was conceived as a unit and describes individual flint industries (embracing more than one phase), it was thought best to preserve it as a unit. Hence it is given as a whole in Appendix I (pp. 525 ff.). For those phases which are covered by Mrs. Payne's report, we mention some of the characteristic traits which she describes for each particular flint industry in the pertinent phase chapters. For the complete report on the industry of each phase covered by Mrs. Payne, however, the reader is referred to Appendix I. For phases whose materials were not available to her for study, the entire description of the flints is given in the phase chapters. New materials which have been added for an industry in a phase already reported on by Mrs. Payne or additional details needed to fit in with our description of the phase assemblage are given in the phase chapter.

Where descriptions originate with us, we have followed Mrs. Payne's excellent mode of description throughout.[51] One very minor discrepancy appears between Mrs. Payne's study and our own descriptions. Some geologists differentiate between flint and chert, as does Mrs. Payne. Many American geologists, on the other hand, use the words "flint" and "chert" synonymously. We have followed the latter and call all the flaked tools of flintlike materials "flint."

Good flint illustration is hard to achieve. Few photographs are shown in the present volume, since photographs register mainly the forms but cannot show the details of retouch adequately. The few photographs are included mainly to illustrate shape or size. It would, however, have been better if these flints too (and even more) could have been drawn, but the drawing of flints is particularly time-consuming and the number had to be limited. Mrs. Payne on her own initiative had three plates of flints drawn to illustrate her report. Excellent illustrations were made for her by Mr. Waterhouse, of the British Museum. With few exceptions (unstratified examples and examples from ambiguous contexts) his drawings appear in this book. We have, however, taken the great liberty of dividing up Mrs. Payne's original plates and putting each example into the text figure of flints illustrating its phase.[52] We think the style of Mr. Waterhouse's drawings (aside from their handsomeness) is admirably suited for bringing out the features that are important in flint illustration. Hence, Miss Edna Tulane and Mrs. Sue Allen, who made the remaining flint illustrations, each attempted to follow his style. We have tried to be fairly consistent with regard to the orientation of tools in the illustrations, but have not always succeeded. Projectile points and fragments of such are shown with the functional end at the top, the tang end downward. Borers and gravers are shown with the working end at the top. Blades and bulbar end sections of blades are drawn with the striking platform and bulbar end at the top (except Fig. 246:12–14). In the case of sickle blades with only one end showing silica polish, this end is shown at the left (except Figs. 186:9, 325:3–4, 353:1).

[51] When shut off by the war, we had at hand all the Judaidah flints studied by Mrs. Payne and her detailed catalogue of them as well as her manuscript. By using these we were able to obtain a basic knowledge of flint classification and description, and we are thus extremely indebted to Mrs. Payne as teacher.

[52] Mr. Waterhouse's drawings are Figs. 30:1–3, 8; 59:1, 11, 12; 60:1–3; 94:1–7, 9, 10, 12–16; 246:1–3, 5–7, 9, 10, 12–14; 294:1, 2, 4, 5; 372:3.

Wherever a large group of tools is described, the practice is to give the measurements of the largest and the smallest example in the group and then the average size. The average size is purely theoretical, obtained by averaging each dimension of all the artifacts in the group. For asymmetrical objects the measurements given are always those of the greatest length, the greatest width, and the greatest thickness.

The flint industries dealt with in this volume are all in the blade tool tradition; that is, neat more or less parallel-sided blades or broken-off portions of such blades (called "blade sections") rather than irregularly shaped flakes or cores were preferred for making tools. Some flakes and a very few cores were, however, made into tools, the flakes mainly as scrapers (e.g. Fig. 186:7). Figure 18 illustrates some of the terms most commonly used in our flint descriptions.[53]

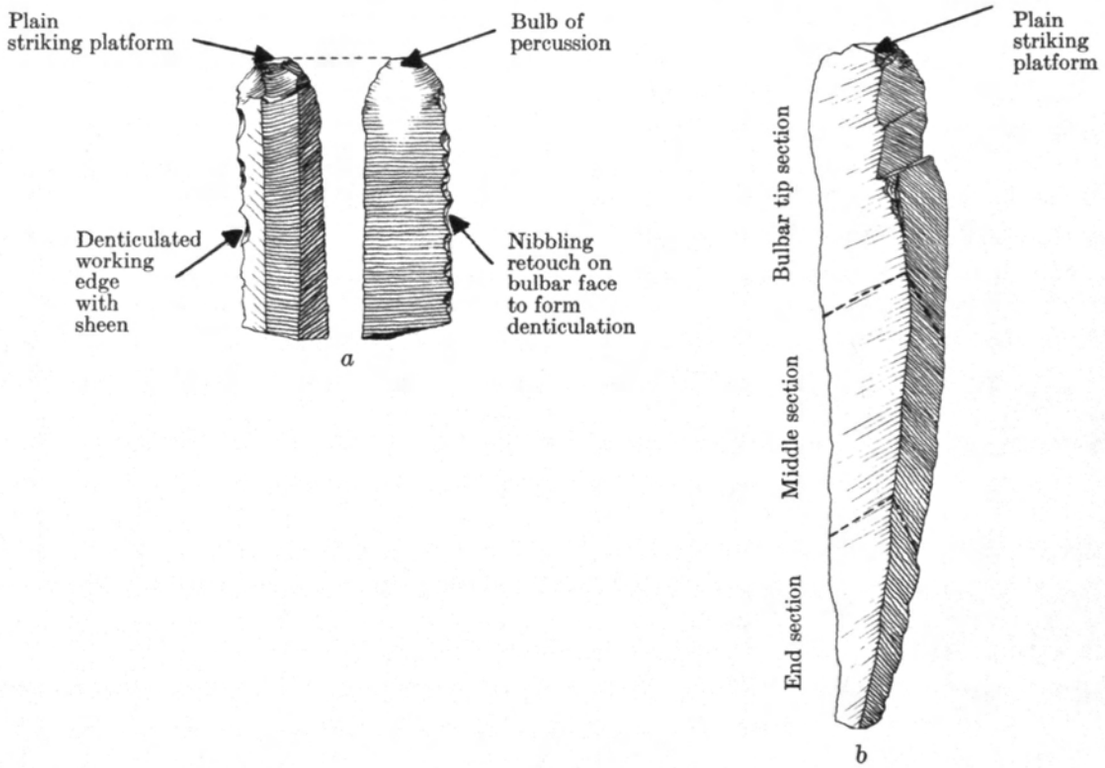

FIG. 18.—SICKLE BLADE MADE ON BULBAR TIP SECTION (*a*) AND UPPER FACE OF UNRETOUCHED BLADE (*b*), ILLUSTRATING TERMINOLOGY USED IN FLINT DESCRIPTIONS. ACTUAL SIZE.

We define a sickle blade[54] as an artifact that has silica polish or sheen along one or both of the edges. The edges may or may not be denticulated by retouch. In the ʿAmuq, sickle blades are made on blade sections but rarely on complete blades.

Mrs. Payne included with her report a quantitative chart of the flint and obsidian artifacts found in the various phases. We have inserted the material covering those phases not dealt with in her report, so that the quantitative chart (Table V) represents all the flint and obsidian tools described in this volume, except those from Dhahab. Although the chart is a reliable

[53] For those who wish to know the essentials of flint work in general, we recommend chaps. iii and iv in M. C. Burkitt, *The Old Stone Age* (Cambridge, 1933). The classifying of gravers throughout the present volume follows that given *ibid.* pp. 59–64.

[54] We have no information from the excavations as to how sickle blades were hafted in the various phases. (An exception is a sickle blade from Phase I [Fig. 325:5; p. 422] which from the extent of the sheen would seem to have been hafted in knife-blade fashion; but this is the only recognizable example of its kind.) They were presumably hafted in wood, for we have found no bone hafts, but we do not know whether the hafts were straight or curved or how long they were. Neither do we know what was used to hold the blades in place within the hafts.

index for all the flint and obsidian artifacts studied and described (except those from Dhahab), it is not a complete quantitative analysis of all the flints excavated. The workmen had instructions to save all worked flints. This they did carefully and faithfully, so that the quantities given in Table V for all tool categories except flakes and cores represent a reliable index of what was excavated. The blades and blade sections are so neat looking that the workmen considered them worked (i.e., retouched). Rough flakes and cores for the most part were regarded as by-products, and few were saved (see p. 23). Thus, the fact that Table V accounts for few flakes and cores in any particular phase does not mean that these were actually rare and that the flint-working was not done on the site. As a result of the policy of discarding unworked flints we unfortunately have no notion of the proportion of worked artifacts to unworked in any phase.

So many flints were found that it was not practicable to give each a field number. The bulk therefore was merely labeled with the proper findspots. Consequently the Index of Field Numbers (pp. 560 ff.) lists only a small fraction of the flints that were excavated.

GROUND STONE

A petrological report made by Dr. F. Cole Phillips, of the Department of Mineralogy and Petrology, Cambridge University, for Mrs. Payne on the flints, obsidian tools, and celts[55] sent to her in England will appear in the volume of technical studies. In our text we have made use of Dr. Phillips' identifications of the celts he examined. All other stone identifications were made in Chicago by Mrs. Hans Ramberg, whose report summarizing the materials and their availability in the area will appear in the volume of technical studies. One of the most commonly used materials is identified by Mrs. Ramberg as "chlorite-rich greenstone." This is what we and others in the field have habitually called "steatite." Bits of stone vessels and such objects as beads, pendants, etc. made of red stone were occasionally found in the excavations. This material we were in the habit of calling "red jasper." Mrs. Ramberg has been unable to identify it either microscopically or by thin sections. It is an extremely soft red rock, so much weathered that the minerals it contains cannot be identified. A list appended to the discussion of ground stone objects in each chapter names the materials identified; hence for the most part they are not mentioned in the descriptions of the objects.

Most of the terminology is self-explanatory. For kinds of objects that have already been classified in the literature, as for example "slingstones," we use the same terms.

The seal impressions that are shown in photograph along with the seals are all modern. Oddly enough, only three impressions (Figs. 236 and 371:4) were found in the ʿAmuq excavations.

In describing beads and pendants we have for the most part followed Beck's usage,[56] especially as regards the shapes. The length of a bead is always parallel with the perforation. This is not the case with pendants, where the length measurement is taken at right angles to the perforation. Some of the examples described as pendants are really borderline cases and might equally well be classified as beads. We have avoided the term "amulet"; undoubtedly some of the examples may have served in some such capacity, but we really do not know.

For celts, of which there are a fair number, we have used some expressions which need explanation. We distinguish between "ax" and "adz" on the basis of the elevation (or side profile). If the working edge (or bit) is centered, that is, lies approximately on the vertical axis of the elevation, the celt is an ax or axlike tool. If the working edge is definitely off-center,

[55] As mentioned on p. 525, n. 1, we have not used Mrs. Payne's section on the ʿAmuq celts since those sent to her were only a small fraction of the total number.

[56] Horace C. Beck, "Classification and nomenclature of beads and pendants," *Archaeologia* LXXVII (Oxford, 1928) 1–76.

the celt is an adz or adzlike tool. In both axes and adzes the working edge is fairly broad. Celts with very narrow working edge are called "chisels." When a celt is rectangular in transverse section, we describe the two broader surfaces as "faces," the two narrower as "sides." "End" is always used for the butt end of the tool and for the end which has the sharpened working edge.

The celts were all made of stones other than flint by a process of grinding, with or without subsequent polishing. "Bevel" and "beveling" refer to changes in plane made in the faces of a celt when the working edge was formed. Beveling is more or less parallel to the working edge (see Fig. 19) unless otherwise described. If it begins at the same height on both faces, it is "symmetrical"; otherwise it is "asymmetrical." If the beginning of a change in plane is marked, showing a clearly perceptible line, the bevel is "well defined." Sometimes in such cases the line may subsequently have been polished, so that it became amorphous or nonexistent. If the

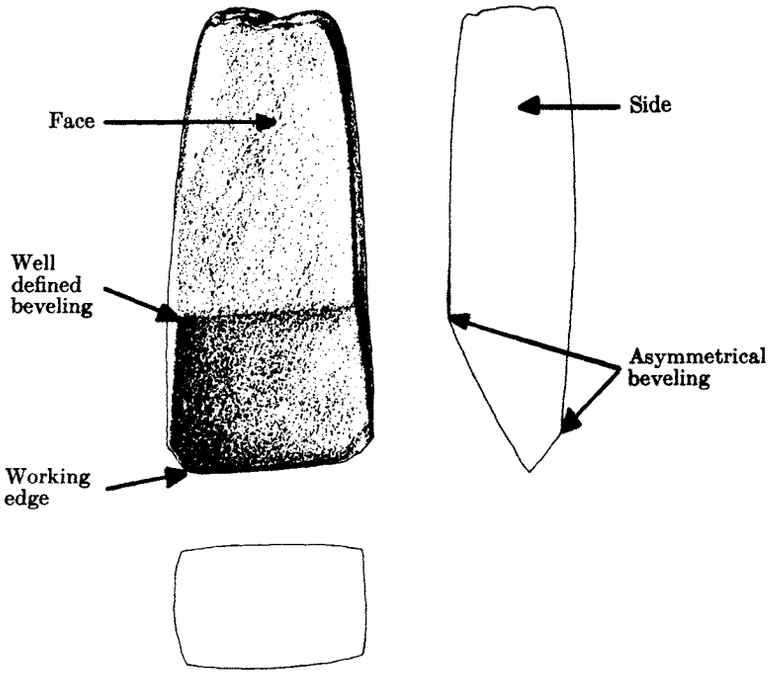

FIG. 19.—ADZ WITH ASYMMETRICAL BEVELING, SHOWING TERMINOLOGY USED IN CELT DESCRIPTIONS. ACTUAL SIZE

line is still visible but only faintly so, the bevel is "poorly defined." Figure 19 illustrates many of the terms used in describing celts.

For the sake of convenience the celts are grouped and described by relative sizes: "large," "medium-sized," and "small" tools. The measurements given are those of the greatest length, width, and thickness. Average measurements are theoretical, representing the averaged measurements of all examples in a group.

Since most of the celts are of relatively dark-colored stones, few details can be seen in photograph. Hence those chosen as types were drawn.

WORKED BONE

We are extremely grateful to Mrs. Dorothy Foss, formerly of the Chicago Natural History Museum, for examining and identifying, where possible, the worked bone artifacts.[57] She was

[57] Mrs. Foss took over the work on the bone artifacts when the preliminary study of Mr. Bryan Patterson, then of the Chicago Natural History Museum, was interrupted by World War II. A report on the unworked animal bones by Dr. Charles A. Reed, of the University of Illinois, will appear in the volume of technical studies (see n. 61).

able in many cases to supply the osteological name of the bone. In only a few cases was there enough remaining of the bone for her to identify the species.

OTHER MATERIALS

Relatively few objects made of materials other than clay, stone, and bone were found. There are only a few beads and pendants of shell, although a fair number of unworked shells were found in most of the phases. The worked shell objects seem to have been made from the types of shells represented by the unworked examples.[58]

A single example of glass, a Phase G bead, was found. Fayence was found in Phase G and more frequently in later phases. Dr. Matson was kind enough to examine the glass bead and some of the fayence specimens.

BURIALS

The funerary habits of each phase would normally be described on the basis of such burials as were encountered. In no case, however, do we feel that there is a sufficiently large series to make such descriptions as we offer very binding; Phases A, C, E, I, and J yielded no burials, and only twelve appeared in all the other phases. A fair number of these were of small children, and two were not burials in the fullest sense, since only the skulls appeared.

The burials are illustrated by photograph. The discussion of the individual burials contains reference to the position in which the body was found, its orientation, and its possible relationship to architectural features where these could be observed. The age and sex of the individual are given in specific terms where there was sufficient evidence for Dr. Krogman to assess them; in most cases the state of preservation was so poor (see p. 24) that the bones were not sent to Chicago, and we give only a very rough estimate of age.[59] The *Beigaben* are listed, both as to where they were found in relation to the skeleton and as to type. The descriptions of the objects themselves, however, appear under their respective material categories, with merely page references to the burials.

CACHES

A cache implies not necessarily a conscious hiding-away but rather a group of objects found together in closer than usual association.[60]

There were only a few so-called "caches" in the range of phases covered by this volume. These consist for the most part of groups of pots and the remains of what were evidently strings of beads. There was also a group of metal figurines (see p. 296). In a fair number of cases we started exposures on the assumption that a proper cache might develop, but it did not. Moreover, it seems unlikely that there is any significance in the arrangement of the objects in the caches which pertain to the range of phases in this volume.

[58] A report by Dr. Fritz Haas, of the Chicago Natural History Museum, on the unworked shells will appear in the volume of technical studies.

[59] On the basis of dentition and suture closure. Though it was not available while we were in the field, reference might be made to Krogman's very useful *A Guide to the Identification of Human Skeletal Material* (Federal Bureau of Investigation, "Law Enforcement Bulletin" VIII, No. 8 [Aug. 1939]).

[60] To a fair degree the normal accidents of excavation determine whether a group of objects (not contained in one great jar or cist) is to be treated as a cache; if a cluster of objects happens to be first exposed on the side where they are most thickly concentrated, it is possible to realize that a cache has been encountered. On the other hand, the cluster might be first exposed on the side where the objects are rather scattered, and a fair number might be removed before it is realized that they are part of a cache. There would seem to be only two methods of reducing the danger of removing objects from a cache before their exact position is fixed. The first is never to remove any object until a whole room or operation is cleared; this method practically doubles the time required to make an exposure and even then invites extra breakage, since exposed objects get stepped on or hit with a shovel. The second method is the standard technique of the prehistorians of fixing position and level of each object on a plane table map of the operation as soon as the object is exposed, so that caches can be rediscovered on paper if necessary. The latter method becomes increasingly impractical the larger the operations become.

As with the grave groups, the individual objects in each cache are described under their respective material categories. In the section on caches, the objects are listed, with field numbers and references to illustrations.

Nonartifactual Materials

This category consists of basic unworked materials of some cultural significance, listed for convenience at the end of each phase chapter. The information comes from preliminary studies of specialists, whose final reports will appear in the volume of technical studies. The identifications given should be considered provisional, for the specialists have reserved the right to qualify themselves in their final reports.

Listed below are the names of the specialists who have contributed to the study of the biological and physical properties of all our materials—artifactual and nonartifactual.

FLORA

Volney H. Jones. Curator of Ethnology and Director of the Ethnobotanical Laboratory, University of Michigan.

Paul A. Vestal. Formerly of the Botanical Museum, Harvard University.

Hans Helbaek. Etnografisk Samling, Danish National Museum.

MOLLUSCA

Fritz Haas. Curator, Division of Lower Invertebrates, Chicago Natural History Museum.

VERTEBRATA[61]

Bryan Patterson. Formerly Curator of Fossil Mammals, Department of Geology, Chicago Natural History Museum; now of the Museum of Comparative Zoölogy, Harvard University.

Mrs. Dorothy B. Foss. Formerly of the Department of Zoölogy, Chicago Natural History Museum.

Wilton M. Krogman. Formerly Associate Professor of Physical Anthropology, University of Chicago; now Professor of Anthropology, Graduate School of Medicine, University of Pennsylvania.

(Dr. Krogman's report is now available: "Ancient cranial types at Chatal Hüyük and Tell al-Judaidah, Syria, from the late fifth millennium B.C. to the mid-seventh century A.D.," Türk Tarih Kurumu, *Belleten* XIII 407–77, Tables I–XXIII, Pls. XLVIII–LXVII.)

STONE

Mrs. Hans Ramberg. Chicago.

F. Coles Phillips. Department of Mineralogy and Petrology, Cambridge University.

METAL

Joseph E. Burke. Formerly Associate Professor, Institute for the Study of Metals, University of Chicago; now of the research laboratories of the General Electric Company, Schenectady, New York.

Norman H. Nachtrieb. Associate Professor of Chemistry, Department of Chemistry and Institute for the Study of Metals, University of Chicago.

(Dr. Burke undertook the metallographic portions of the study, Dr. Nachtrieb the spectrographic and wet chemical analyses. Mr. Lawrence J. Howell made the spectrographic analyses, under Dr.

[61] Professor Charles A. Reed, of the University of Illinois, a member of the Iraq-Jarmo Project field staff in 1954/55, has undertaken a restudy of the ʿAmuq animal bones in conjunction with his study of the series from Iraqi Kurdistan. Dr. Reed has already acquired the beginnings of a corpus of contemporary animal skeletons (both domestic and wild) for the Iraqi highland region, and his generalizations—to appear in the volume of technical studies—will be much more firmly founded than it was possible for Patterson to make his. Reed is convinced that it is often very difficult to distinguish between the wild and domestic forms of the same species. Hence some of the animals listed as domestic in the present volume may not be considered so by Reed in his final report.

Nachtrieb's direction. A short account of the study is given by Braidwood, Burke, and Nachtrieb, "A metallographic and chemical examination of some ancient Syrian coppers and bronzes," *Journal of Chemical Education* XXVIII [1951] 87–96.)

CLAY AND GLASS

FREDERICK R. MATSON. Formerly Curator of the Ceramic Repository, Museum of Anthropology, University of Michigan; now Professor of Archeology, Pennsylvania State University.

(Dr. Matson's methods are briefly indicated in "Technological development of pottery in northern Syria during the Chalcolithic Age," *Journal of the American Ceramic Society* XXVIII [1945] 20–25.)

We are deeply indebted to our specialist collaborators. In a few cases we have had expert advice on individual objects; these are credited directly in the text.

II

PHASE A

INTRODUCTION

THE Phase A materials are available in no great bulk, and part of them are isolated on typographical grounds alone. Nevertheless, the stratified objects are sufficiently numerous and consistent so that confidence may be placed in their being a proper assemblage. This assemblage—consisting in the main of pottery, flints, ground stone and bone tools—would seem to indicate a mature and stabilized set of technological habits.

Phase A was encountered in the full stratigraphic sense only in the base cut JK 3 on Judaidah. At least three and possibly four floors (28–25) were encountered; the area exposed was at best 72.25 sq. m. and less at the greatest depth; the total depth of the deposit before virgin soil was encountered was 1.75 m. All of it was under the water table, so that excavation was carried on with the aid of a pump (see Pl. 7 *A*). The debris remained almost fluid, and no mud-brick or *tauf* architecture (if present, as was probably the case) could be observed. The phase has been defined, however, on the basis of three consistent ceramic productions which this mucky debris yielded.

When Mrs. Payne made her study of the Judaidah flints, the old "period" nomenclature (see p. 11) prevailed. She found a consistent characteristic flint industry throughout Judaidah XIV. After Judaidah XIV was divided into two phases (A and B) on the basis of the pottery, we again examined the flints to see whether there was any apparent difference, however slight, between the two phases. (Much of the material sent to Mrs. Payne was given as Judaidah XIV, without indication of specific floors.) Through some incomprehensible error the flints from floor 25 and those from the debris above 25 were all labeled merely as 25 (these flints comprising more than one-third of all flints from Phases A–B). Since the dividing line between Phases A and B is floor 25, we would have been confronted by a serious problem had there been any real difference between the flint industries of the two phases. However, the flints from below floor 25 were in perfect accord with those labeled as 25 and with those from the Phase B floors above 25.[1]

Material assessed typologically as of Phase A came from all three operations on Dhahab, where areas totaling some 130 sq. m. were exposed to various depths. The yields were always inconsistent, and the stratigraphy was incomprehensible during the short duration of our operations. Some material of Phase A type is available from the cave dug by T. P. O'Brien (see p. 18); the lot preserved in the Antioch Museum is very small but apparently consistent (within itself and also with that from Judaidah JK 3).

ARCHITECTURE

No architectural features in the JK 3 exposure may be assigned to Phase A except a small area of packed earth flecked with charcoal on floor 25, which may have been a hearth (Fig. 20). It was overlaid in part by stone foundations which refer to floor 24 (Phase B). The rest of

[1] The only possible difference was the absence of borers in the Phase A levels (excluding floor 25), and this is probably more apparent than real. A fair number of borers were found in Phase B, and a few were among the material labeled as 25. It is most likely that Phase A also contained borers, for they were used in much earlier times and continued in use at least until the end of Phase H.

floor 25 was observable at intervals at the same level; it was much less firmly packed but included concentrations of charcoal flecks and other debris. The same holds for the very restricted bits of floors 26 and 27 (see Fig. 20, section, and Pl. 7 *A*). The presence of ground water (see p. 46) prevented observation of any mud brick, *tauf*, or such features as post-holes which may have been present.

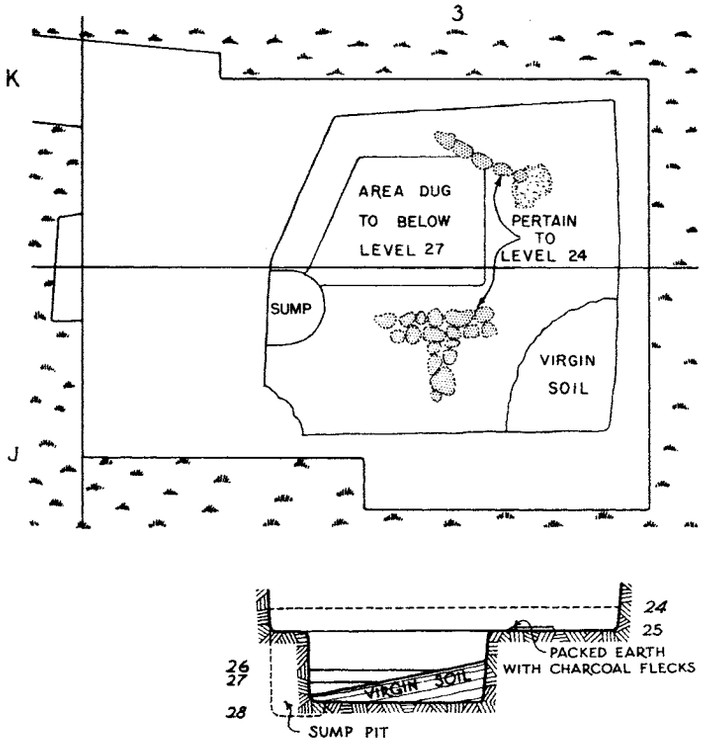

FIG. 20.—PHASE A. PLAN AND SECTION OF JUDAIDAH JK 3:28–25. SCALE, 1:200

Because of the completely inconsistent character of the sherd sortings from Dhahab, it is impossible to assign any of the architectural features of the TT 1 exposure to Phase A.

POTTERY

Phase A is defined almost entirely on the basis of ceramic evidence. It includes those floors whose ceramic content was limited to Coarse Simple Ware, Dark-faced Burnished Ware, and Washed Impressed Ware. Such a condition was exposed only at the base of the JK 3 cut on Judaidah.

The wares are described below on the basis of a total selected field sampling of 460 sherds. There is also one reconstructible pot, a small cup in the burnished ware (Fig. 23, Pl. 13:1). Each of the three wares continued on into Phase B.

COARSE SIMPLE WARE

(8–13% of total selected sherd bulk)

The vessels were handmade and built up, almost certainly, in sections. The majority of the sherds exhibit incomplete oxidation of the central core, which remains black. The paste, where well fired, varies in color from light yellow-orange buff to dirty orange-brown buff, the normal color being orange-buff. The tempering is of two sorts: white, gray, and black mineral inclusions, either crystals or pebbles, and vegetable inclusions, probably straw. The latter usually appear in generous quantity. The mineral inclusions are sparse to medium in concentration and

coarse to very coarse in size. The fracture is irregular and rough. The surface has the same color range as the paste; it is dull and uneven, and roughness results also from pits left by burned-out vegetable temper. The surface (see Pl. 11:1, 3) is wet-smoothed at best, though rare and poor attempts at burnishing were noted.

There are two physical types—soft and brittle. The soft type is dominant in Phase A. The sherds have a weathered soft appearance, are 10–20 mm. thick, and have a granular fracture. Their chief mineral inclusion is calcite, which occurs in grains up to 3 mm. in diameter. In some cases the calcite forms 60–70% of a sherd by weight. Straw impressions are sparse. The paste is usually of the *calcite*[2] type. Almost half of the sherds are oxidized throughout. The firing temperature was less than 800° C. The coarse mealy appearance is probably due to the poor working properties of the highly calcitic clay, from which only thick-walled vessels could be formed. ʿAsi Valley clay from near Taʿyinat most nearly resembles that used in this type.[3] A few sherds made of the *serpentine* type paste which was used for the Dark-faced Burnished Ware at Kurdu (see p. 139) occur in this group. They may be from otherwise normal Dark-faced Burnished Ware pots, whose surfaces were not burnished. The brittle sherds constitute only one-fifth of the Phase A Coarse Simple Ware, and the fabric is discussed under Phase B (p. 70).—Matson.

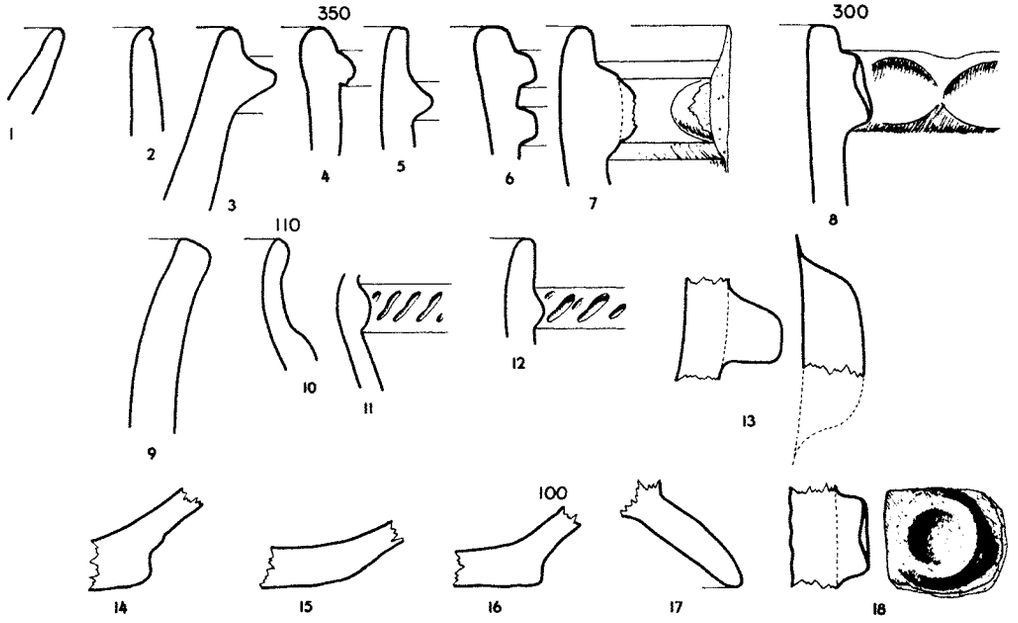

Fig. 21.—Phase A. Coarse Simple Ware. Scale, 1:3

The forms indicated by the sherds seem to be deep bowls (Fig. 21:1–3), ovoid jars (Fig. 21:4–8), and collared jars (Fig. 21:10–12 and perhaps 9). Bases are plain flattened to raised flattened (Fig. 21:14–16), with one example (Fig. 21:17) of either a low hollow pedestal or a cup base. It is impossible to associate any of these bases with any particular form.

The deep bowls are not numerous. One carried a plastic band about the rim (Fig. 21:3).

The ovoid jars appear in the greatest proportion, *ca.* 66%, all carrying at least one plastic band, more rarely two such bands, about the rim. One broad band seems to have had a clay blob added to it (Fig. 21:7); another has contiguous depressions giving a ropelike effect (Fig. 21:8, Pl. 11:3).

[2] [In Matson's report in the volume of technical studies it will become clear that the several clay pastes which have been recognized are designated by their most characteristic mineral. When used to define a paste type, the mineral name (e.g. *calcite*) is italicized.—R. J. B.]

[3] [Raw samples of clay were taken from four different sources in the ʿAmuq for use in the technical study.—R. J. B.]

There are two plain collared-jar sherds and perhaps a third, large, example (Fig. 21:9), which may not be a collar at all. There are four rim or shoulder sherds, each carrying a raised band with incised diagonal "rope" pattern (Fig. 21:11–12).

Except for the plastic bands, perhaps to be considered as decoration, only two secondary features appeared: a simple ledge-handle fragment (Fig. 21:13) and a raised blob (Fig. 21:18).

Dark-faced Burnished Ware
(79–84% of total selected sherd bulk)

In the gross analysis of the clay no change was seen from Phase A to the assumed beginning of Phase C, with the possible exception of a slight increase in the proportion of sherds of a more fully black color and with somewhat smaller inclusions.[4] The vessels were handmade; the greater proportion of the core remains dark in most cases. The paste varies from orange-buff to almost black, dull gray-brown buff being the normal color. The inclusions are mineral—white, gray, and black—in sparse to medium concentration; the little vegetable matter that appears is probably accidental. The sizes of the inclusions are 28% fine, 55% medium, 12% coarse, and 5% very coarse. In a very general way, the finer grit appears in the thinnest sherds. The paste is dense and granular and takes a more or less straight fracture, which appears rough. The surface color (see Pl. 80:1, 3, 5) varies from dirty yellowish buff to black, passing through a variety of red-orange and chocolate shades, but the most normal is gray-brown buff. There is occasional mottling. The luster varies with the burnish but is never high. The surface (see Pl. 12:4, 6, 8, 12, 21, 22) was evidently wet-smoothed before burnishing; there is a fair number of cases of self-slip, but true slip is rare until Phase C. The burnish is usually horizontal and normally not quite continuous or "closed."

Three-fourths of the sherds form a consistent group made from the *actinolite* type paste. They are 4–14 mm. thick and vary in texture from extremely fine to coarsely granular. Most of the mineral grains are less than 1 mm. in diameter, but a few are up to 3 mm. Straw tempering occurs in 4% of the Phase A sherds, a fact which suggests that a few of the Coarse Simple Ware pots may have been burnished. Some of the burnished surfaces are glossy, others quite dull; the majority are intermediate. The surface reflectance in terms of March's scale is 2–3 for a good gloss; the maximum observed is 4. (Plate glass has a reflectance of 10.) The scratch hardness of the burnished surfaces is 3–4 and the body hardness 2.5–3.5 in terms of Moh's scale. Two-thirds of the sherds have oxidized outer layers and black cores, and most of the remainder are black throughout. Most of the sherds have very dark, frequently black, surfaces. Beneath this thin black layer, never more than 1 mm. thick, is a thin oxidized zone which indicates that the black surfacing was produced after firing. It could have resulted either from green fuel or dung thrown into the kiln at the end of the firing, so that the vessels cooled in a smoky reducing atmosphere, or from organic material rubbed on the hot surfaces. Intentional surface blackening is a widespread ceramic trait in the Mediterranean and Near Eastern regions in the Chalcolithic and Bronze Ages.

A search was made for sherds whose paste appeared to be atypical. Two are of a *calcite* paste like that of the soft type of Coarse Simple Ware, and four are of a *serpentine* paste such as was used at Kurdu for the Dark-faced Burnished Ware. These four could represent imports from Kurdu.

The rest of the sherds, comprising 23% of the Phase A burnished material, are of a red clay that was heavily tempered with calcite, termed *calcite in red clay*. They are 8–12 mm. thick and come from bowls *ca.* 26 cm. in rim diameter. Their distinctive characteristic is the presence of ledge handles *ca.* 1 cm. below the rim (see Fig. 22:18–22). Most of the sherds are oxidized throughout. They are red in color, with burnished surfaces, and have a distinctive appearance because of a peppering of white angular calcite grains throughout the paste. The pottery was probably made from red clay found in the limestone outcrops above Judaidah. Braidwood has classified these sherds morphologically with the Dark-

[4] The "assumed beginning of Phase C" refers to the majority of Dark-faced Burnished Ware of the First Mixed Range on Judaidah (see p. 101). The Dark-faced Burnished Ware of Phase C (middle or late) on Kurdu is significantly different.

faced Burnished Ware. The distinctive physical appearance and the presence of ledge handles indicate that this group should be classed as a unique variant that occurred only in Phase A.—MATSON.

The most common form appears to be a deep rather straight-sided bowl, as indicated by 95% of the rim sherds. The remaining 5% of the rim sherds indicate collared jars, except for one sherd of a very low bowl with plain lip (Fig. 22:1). Bases are either flattened or slightly raised flattened, but it is probable that a number of bowls had plain rounded bases whose fragments are not distinguishable from normal body sherds.

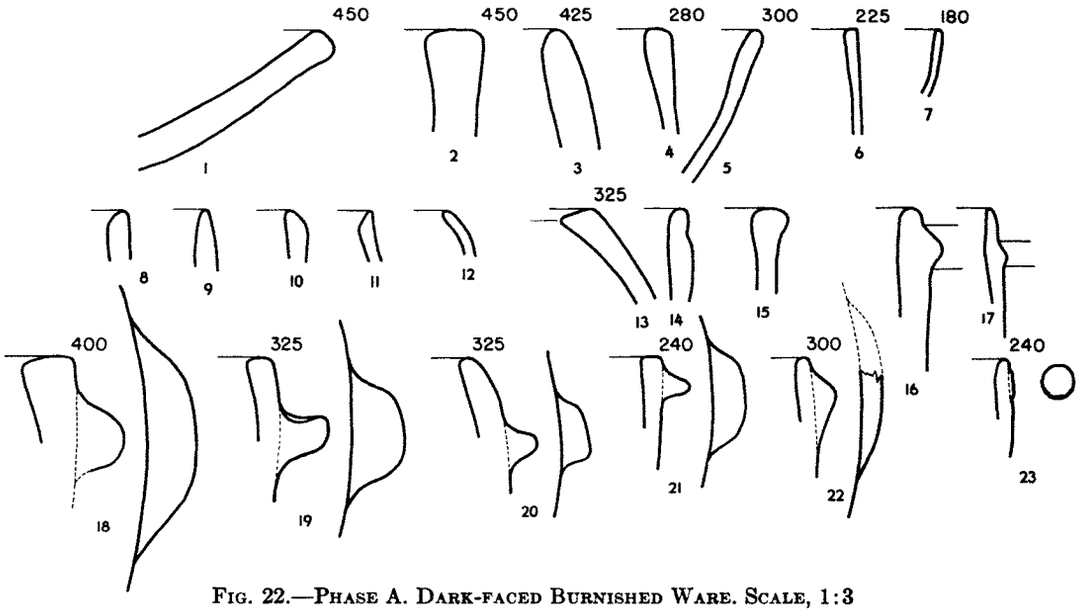

FIG. 22.—PHASE A. DARK-FACED BURNISHED WARE. SCALE, 1:3

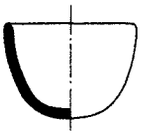

FIG. 23.—PHASE A. DARK-FACED BURNISHED WARE CUP (x4953). SCALE, 1:5

In general, the bowl sherds indicate hemispherical to vertical-sided shapes (Figs. 22:2–7 and 23, Pl. 13:1), but some tend to curve gently inward toward the rim (Fig. 22:11–12) and a few are really rim sherds of hole-mouth vessels (Fig. 22:13). The lips of the bowl sherds are either rounded or plainly flattened, and there may be considerable variation in the roundness or flatness on any one pot. Some of the flat bases (Fig. 25:5–9) certainly belong to these bowls. The important secondary feature of the bowls is the ledge handle (Fig. 22:18–22) which appears on *ca.* 23% of the rim sherds, probably a number sufficient to indicate that most of the bowls had a pair of such handles. The ledges are applied strips of clay. They never seem to be concave at the bottom so as to afford a really good grip, but some are concave at the top (Fig. 22:19); a good number, however, are almost too small to be very functional as handles (Fig. 22:22). A few of the bowl sherds have an added plastic band (Fig. 22:16–17), and several have a low rounded blob of clay applied near the lip (Fig. 22:23).

The collared jars may be generally subdivided into two classes: that with a very low collar which was easily formed without the addition of extra clay (Fig. 24:1–4) and that with a high, often flared, collar which in a number of cases was demonstrably added separately (Fig.

24:5–9). The lips are all plain rounded. There is only one case of a secondary feature, a disklike blob (Fig. 24:4, Pl. 12:21) pierced horizontally (for string attachment?).

There are three body sherds with secondary features (Fig. 25:1–3), one with a pierced lug and two with blobs of clay. It is impossible to orient the lug or to say whether the piercing was horizontal or vertical.

Decoration seems to be restricted to the bowls and occurs on only 11% of the bowl sherds (Fig. 26, Pl. 12:8, 23). With one exception, it consists of impressions made with both sharp

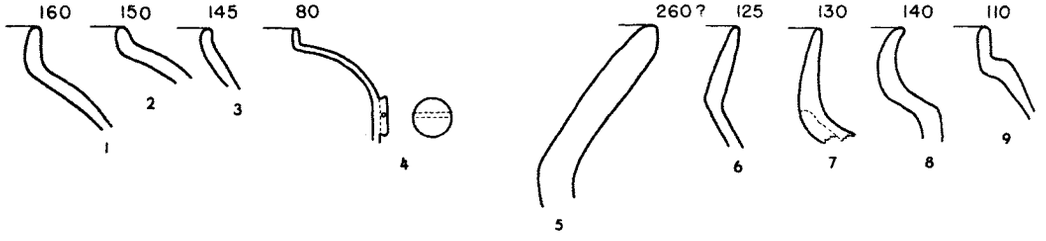

FIG. 24.—PHASE A. DARK-FACED BURNISHED WARE. SCALE, 1:3

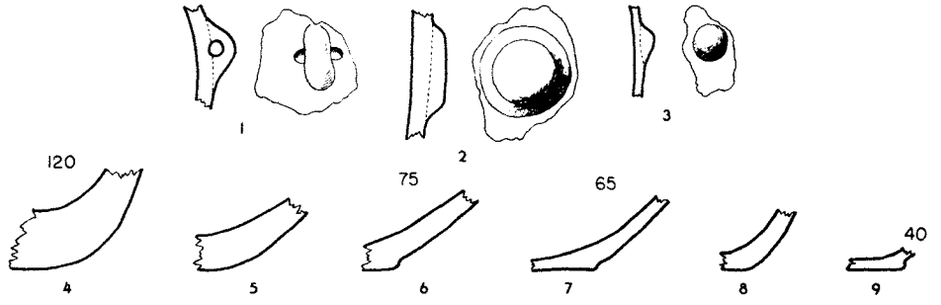

FIG. 25.—PHASE A. DARK-FACED BURNISHED WARE. SCALE, 1:3

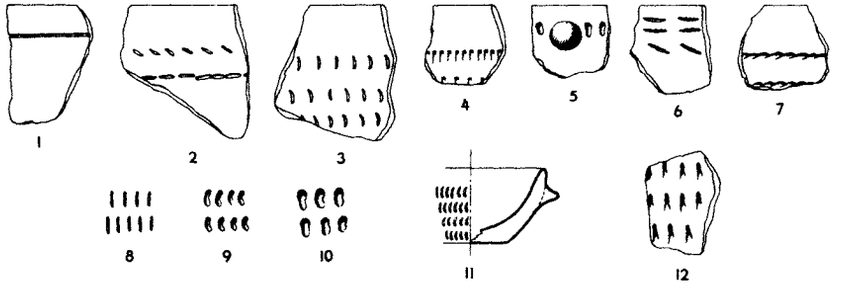

FIG. 26.—PHASE A. DARK-FACED BURNISHED WARE. SCALE, 1:3

and blunt implements, possibly bird bones.[5] The decoration apparently was done either before or after burnishing and consists of bands or allover patterns of similarly shaped impressions. The shapes of the impressions—lunate, elliptical, squarish—vary considerably from pot to pot, depending on the implement used or the angle at which it was held, but those on any one pot are quite consistent and tend to be ordered horizontally even if applied all over. In some cases the impressions were applied with their long axis horizontal (Fig. 26:6), and in five examples these were set close together and give the appearance of rope impression (Fig. 26:2,

[5] See a very suggestive article, with plates, by Dorothy M. Liddell in *Antiquity* III (1929) 283–91, which demonstrates the variety of impressions which may be made in soft clay with bird bones.

7). Several sherds have applied blobs of clay as well as impressed decoration (Fig. 26:5). One sherd has merely a narrow incised band below the rim outside (Fig. 26:1).

Figure 27 shows a selection of Dark-faced Burnished Ware sherds from Dhahab which may be assessed on typological grounds as of Phase A.[6] The gross examination of the clay showed no significant difference from the Judaidah sampling, save possibly a slightly higher proportion of completely oxidized specimens. Dark incompletely oxidized cores predominate, however. The forms include open bowls (Nos. 1–2), normal semispherical and high-sided bowls (Nos. 9–15), hole-mouth jars (Nos. 16–21), low-collared jars (Nos. 22–28), and high-collared jars (Nos. 29–31). The proportion of hole-mouth jar sherds is higher than in the Judaidah exposure; ledge handles (Nos. 9, 20, 21) and flat bases (No. 32) conform to the Judaidah types. One class of profiles not present in the Judaidah sampling consists of open and relatively low bowls with a tendency toward a sharp change in plane (Nos. 3–8); this class apparently anticipates a sharp-angled bowl profile which first appears in Phase B on Judaidah (see p. 73). Impressed decoration (Nos. 33–44) also conforms to that seen on Judaidah, and there are examples of plastic bands (Nos. 45–47) including one with an applied blob. An unusual feature is a small applied crescent of clay below the rim on a bowl sherd (No. 48 and Pl. 12:4).

Washed Impressed Ware

(5–10% of total selected sherd bulk)

This ware is described on the basis of over fifty sherds, some from Phase B. The vessels were handmade and lightly fired; at least three-fourths of the core remains dark. The paste varies from dirty orange-brown buff to black, the normal color being brown-black. The mineral inclusions are granular, white, gray, and black; some mica-like flecks appear, and some samples seem to contain very fine vegetable fiber impressions. The concentration of the mineral inclusions is mostly sparse, but some samples show medium concentration; the sizes of the inclusions are 38% medium, 52% coarse, 20% very coarse. The texture appears to be friable; the fracture is either straight or irregular. The surface color (see Pl. 80:4) in areas not treated with wash varies from dirty gray-brown or orange-brown buff to dark gray-black, the normal shade being dull gray-brown. In unburnished areas there is no luster, and the surface (see Pl. 15:17, 19–20) is only fairly smooth, with occasional streaks left by too dry smoothing. The wash is evidently a thin aqueous pigment of ocher and is characteristically applied all over the inside and down over the rim on the outside to *ca.* 1 cm. below the lip, thus forming a rim band. It is sometimes applied below the rim band on the outside in oblique lines (see p. 55). On the inside and over the rim approximately as far as the wash band goes, the vessels are burnished, sometimes well, but usually indifferently and in general horizontally. Since the wash is thin, its color varies with the color of the underlying paste, being red-orange on the lighter examples and a sort of red-purple on the darkest ones.

This group is technologically very similar to the Dark-faced Burnished Ware except for surface treatment. Here there is more very fine quartz present in the paste, and therefore the burnished surfaces tend to be duller. It is uncertain whether the more sandy *actinolite* paste of the Washed Impressed Ware sherds studied is a distinctive criterion or just a trend influenced by sampling. The difference between the two wares, in any case, is slight.—Matson.

The only form indicated by the sherds is a hemispherical bowl with vertical rim. In a minority of cases there is some flattening of the lip (Fig. 28:4), but the normal lip is a plain

[6] See p. 15 on the relative unreliability of operations at Dhahab. Our reason for attributing these Dhahab sherds and those of Washed Impressed Ware (see p. 55) to Phase A depends on the fact that in a relatively large sorting (over 350 sherds) none of the more characteristic Phase B criteria appeared. In fact, the site seems not to have been occupied between Phases A and F in so far as the sherd sortings indicate. No attempt was made to classify the Phase A Coarse Simple Ware and the Phase F Chaff-faced Simple Ware, for their similarities in paste, texture, and chaff tempering would make assessment of most of the smaller sherds impossible.

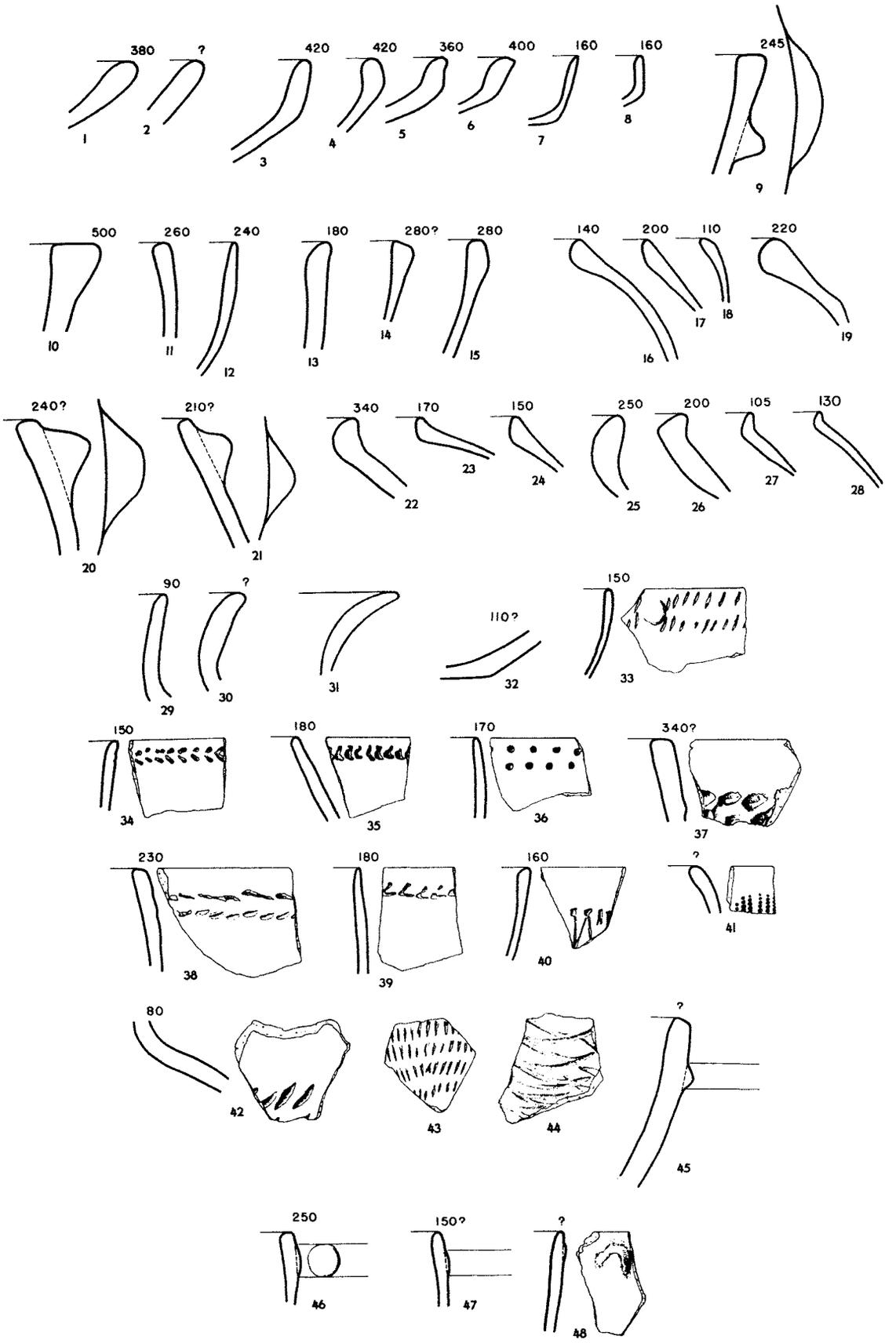

FIG. 27.—PHASE A. DARK-FACED BURNISHED WARE FROM DHAHAB. SCALE, 1:3

rounded one. In three examples the rim has a bulge to the outside (Fig. 28:3), which accentuates the band of wash and burnish. Two plain flattened bases appeared (Fig. 28:15) but no secondary features. From the point of view of form, there is no essential difference between these bowls and the smaller bowls of Dark-faced Burnished Ware.

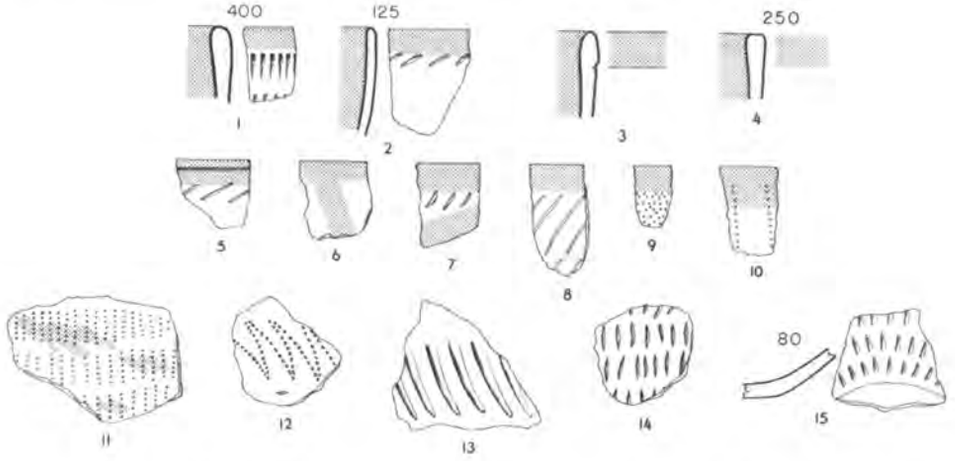

FIG. 28.—PHASE A. WASHED IMPRESSED WARE. SCALE, 1:3

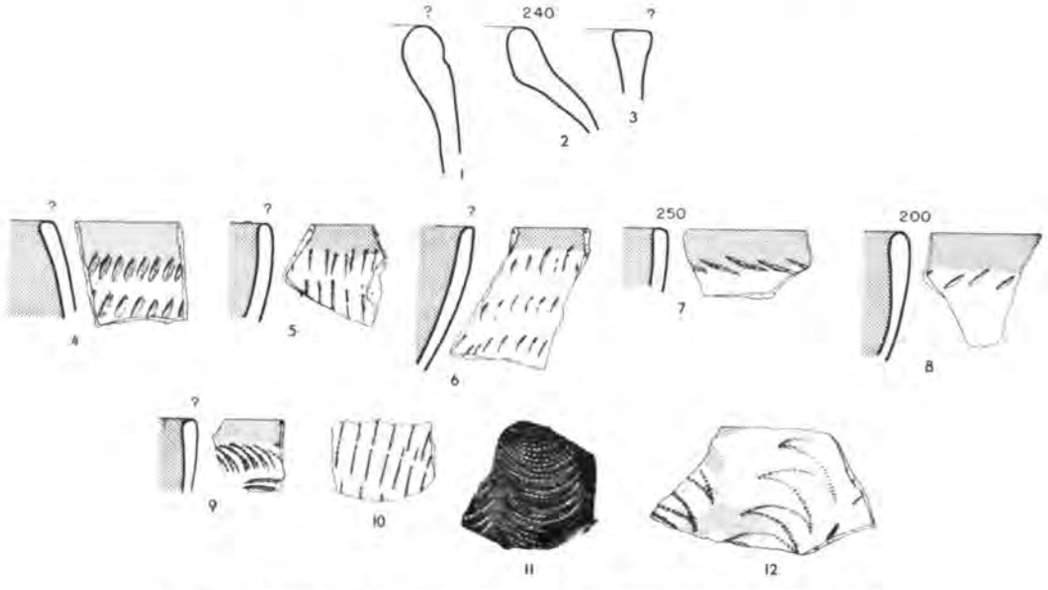

FIG. 29.—PHASE A. WASHED IMPRESSED WARE FROM DHAHAB. SCALE, 1:3

The characteristic feature of the Washed Impressed Ware is the combination of red wash, with its rim band, and impressed decoration in the great majority of cases. In addition to short crescentic, pointed, and somewhat squarish impressions, already seen in the Dark-faced Burnished Ware (see Fig. 26), there are short crescent-shaped impressions with dentations inside (Fig. 28:2, 14) similar to impressions made by the anterior end of a certain type of shell[7] in soft clay. The habit of making impressions with a rocker-like motion, which results

[7] Examples of *Glycimeris violascens* LAMARCK were found in Phase A (see p. 67), and experiments with impressing them in soft clay gave satisfactorily similar results.

in a zigzag (Fig. 28:12), is evidently more marked in Phase B. Another characteristic type of impressed design consists of rows of little round holes (Fig. 28:9–11), usually ordered, but in one case applied indiscriminately. Oblique lines of wash applied as decoration (Fig. 28:6–7) are not common but can be distinguished from accidental smearings of the wash solution (Fig. 28:11). Since the oblique lines are subsidiary to the application of the wash, the appearance in Phase A of painted decoration can be granted only in a restricted sense.

Figure 29 shows a selection of Washed Impressed Ware sherds from Dhahab which may be assessed on typological grounds as of Phase A (see p. 52, n. 6). The gross examination of the clay showed no significant difference from the Judaidah sampling. The normal examples (Nos. 4–12) conform directly to the Judaidah group, and there is a variety of good examples of rocker impression (Nos. 11–12). Three examples (Nos. 1–3) are not part of the normal bowl series but do show traces of thin ocherous slip (or wash?). Apparently this solution was occasionally used on larger vessels which we would otherwise classify simply as Dark-faced Burnished Ware.

BAKED-CLAY OBJECTS

No small objects of clay were recovered from the small exposure of Phase A depths on Judaidah. This of course hardly means that there were none in the original and complete Phase A assemblage. A pierced potsherd disk was found in the probable Phase A context of the cave in Wadi al-Hammam, near Judaidah (see p. 18).

FLAKED STONE OBJECTS

At Judaidah the flint[8] and obsidian industry of Phase A is identical with that of Phase B (see p. 46), and the two are treated as a whole by Mrs. Payne (pp. 525–30). Briefly stated, the most characteristic tool types are finely retouched javelin heads with long tang that broadens out at the end (Fig. 30:1–3, Pl. 65:13), short narrow sickle blades with finely denticulated working edge and no retouch on back or ends (Fig. 30:4–7), shapely narrow blades with small unfaceted striking platform (cf. Fig. 59:16), trim single-ended blade cores with blade scars covering only half of the surface (Fig. 30:9). For other types see Figures 30 and 59–60 and pages 525 ff.

The same industry was well represented at Tell Dhahab, which provided an abundance of tool types including some handsome javelin heads (Fig. 374:1, 10, 11).

GROUND STONE OBJECTS

Rubbing(?) Stones

With the exception of one marble specimen (x4957) these twenty-one objects are made of limestone. In technique they stand midway between flaked flints and the ground and polished objects described below, for in the main they are made by a combination of chipping and grinding. Most of the rubbing(?) stones are roughly disklike (Fig. 31:1, Pl. 69:17). Both surfaces are usually ground and are slightly polished from use, but in a few examples only the lower (slightly broader) surface is ground. The sides are neatly chipped. The remainder (7 examples) are plano-convex in section (Fig. 31:2, Pl. 68:8). The rounded upper surfaces are natural. The flat lower surfaces are fairly smooth but not ground in all cases. As in the disklike examples, the sides are trimmed by flaking. The disklike stones are fairly uniform in size, averaging 50 mm. in diameter and 15 mm. in thickness; one unusually small specimen (x5157*c*) is *ca.* 38 mm. in diameter and 8 mm. thick. The plano-convex examples have the same range in diameters on the whole but are 5–10 mm. thicker; the largest one (x5157*b*) is 95 mm. in diameter and 42 mm. thick.

[8] See p. 39 for the sense in which "flint" is used throughout the text as opposed to its use in Appendix I.

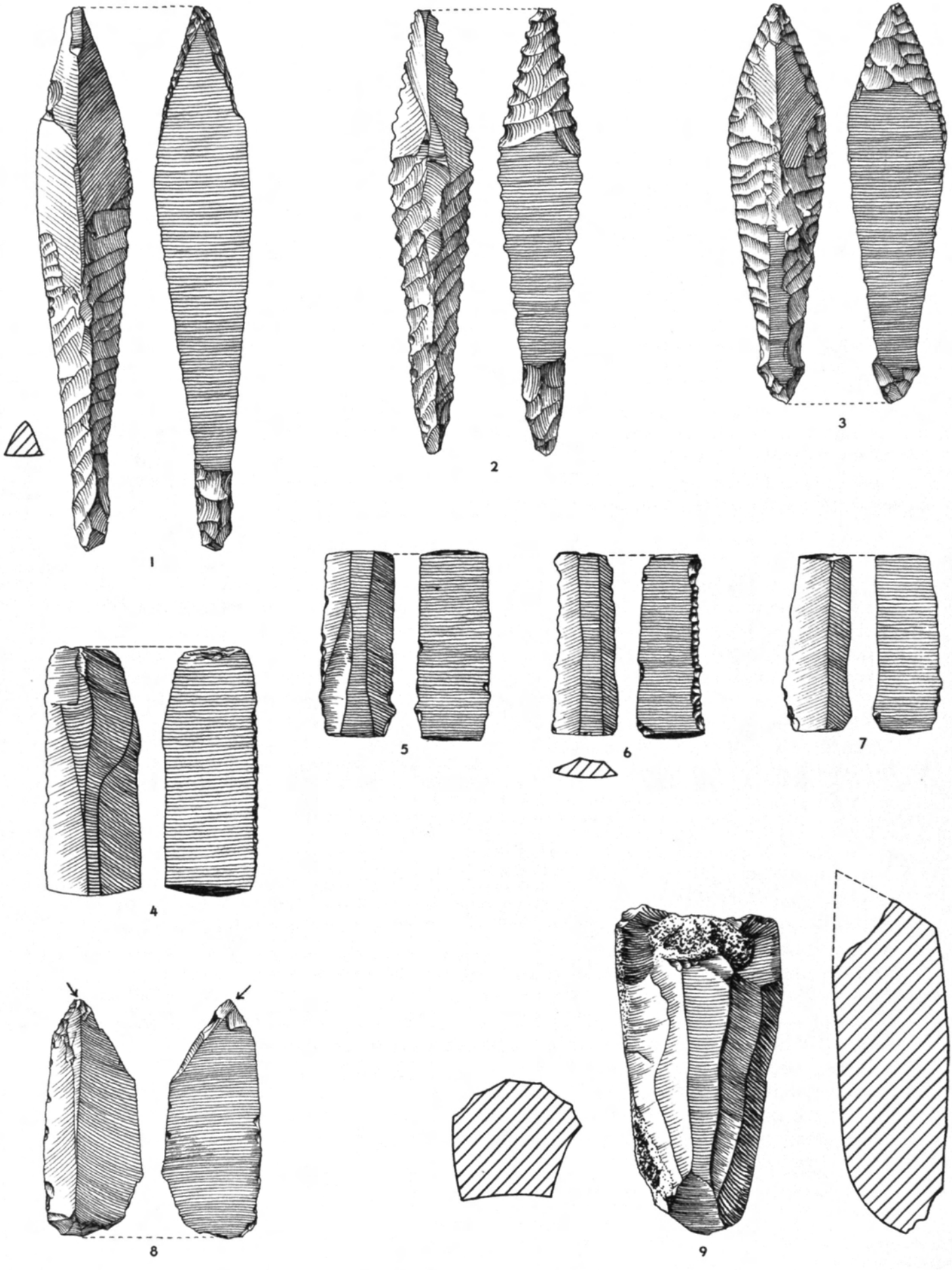

FIG. 30.—PHASE A. FLINTS. ACTUAL SIZE

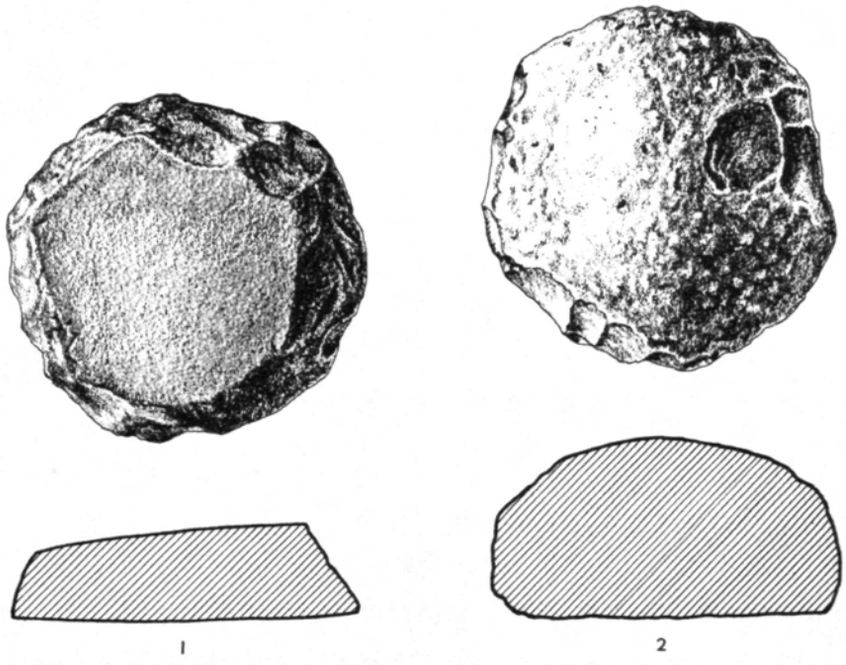

FIG. 31.—PHASE A. RUBBING(?) STONES. ACTUAL SIZE

VESSELS

The shapes represented by the eight fragments are quite simple, and the vessels were relatively small. They range from low shallow forms to deeper bowls; all are round in plan.

A subhemispherical vessel fragment (Fig. 32:1)[9] is smoothly ground and polished outside, inside, and on the flattened rim. The shallowness suggests that the object served as a mortar rather than as a container. It is included here because its smallness seems to preclude its use as a grain mortar; nor are there any bits of coloration to indicate that it was used for grinding paints. Parts of the rim are much battered, indicating that the object was used for heavy scraping and pounding, probably after it was broken.[10] Other shallow forms are a small saucer-like dish with rounded lip (Fig. 32:2) and a low cup with slight shoulder and flattened lip (Fig. 32:3).

Somewhat larger bowls are also represented. A fairly straight-sided hemispherical bowl with flattened lip (Fig. 32:4, Pl. 67:4) is embellished with a raised band about the outer rim. A body fragment of a large bowl with ring base (Fig. 32:5) is the only example that is not well finished. The outer surface is ground but not polished; the inner surface is only roughly pecked. Another body fragment (Fig. 32:6) apparently is from a fairly large bowl with slightly flattened base.

Two fragments indicate more unusual forms: a thin-walled seemingly collared jar with rounded outflaring lip (Fig. 32:7) and a shallow subhemispherical form with flattened lip and short open spout (Fig. 32:8, Pl. 67:2), which may have served as a lamp.

[9] See Fig. 62:1 for similar shape in Phase B.

[10] The fragment is unusual in that it represents exactly half of what we assumed to be the original form. The break is clean but not ground or polished. Its counterpart in Phase B (Fig. 62:1) likewise represents only half of the original. Thus the question arises whether we are wrong in assuming that the original form was round in plan. Perhaps the fragment (semicircular in plan) is actually the end product. Against the latter view is the fact that all the surfaces except the assumed break are ground and polished.

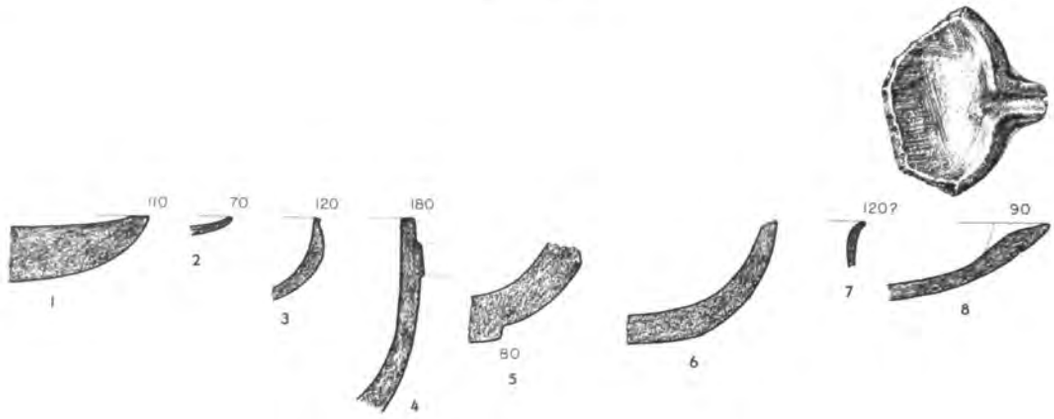

FIG. 32.—PHASE A. FRAGMENTARY STONE VESSELS. SCALE, 1:3

FIG. 33.—PHASE A. LARGE CELTS. SCALE, 1:2

CELTS

The twenty-three celts[11] are all ground and subsequently polished. The entire surface is usually polished. The most common material is amphibole rock, with diabase and hornstone next in frequency (see pp. 64 f.). Flint was not used for making celts in the ʿAmuq.

All surfaces of the six large tools are ground and then slightly polished. Four tools are axlike (Fig. 33:1, 3); one is not clearly either axlike or adzlike (Fig. 33:2); and the working edge is missing in the sixth (x5046). The average dimensions are: length, 80 mm. (since 4 specimens are fragmentary, the true average length is somewhat greater); width, 52 mm.; thickness, 31 mm. The transverse sections are rectangular in four specimens; the others are plano-convex (Fig. 33:1) and pentagonal (Fig. 33:2). All are more or less rectangular in elevation. The butt ends are slightly rounded off and show signs of battering. The working edges are blunted by use and are convex in four examples. At present one (Fig. 33:3) has a straight working edge, badly worn and broken by use, and the faces are asymmetrically beveled at the working-edge end. In most of these large tools, however, the beveling is poorly defined or the faces merely

[11] Not including one example (x4971) which is not catalogued but is registered as a small incomplete celt of fine gray-green stone.

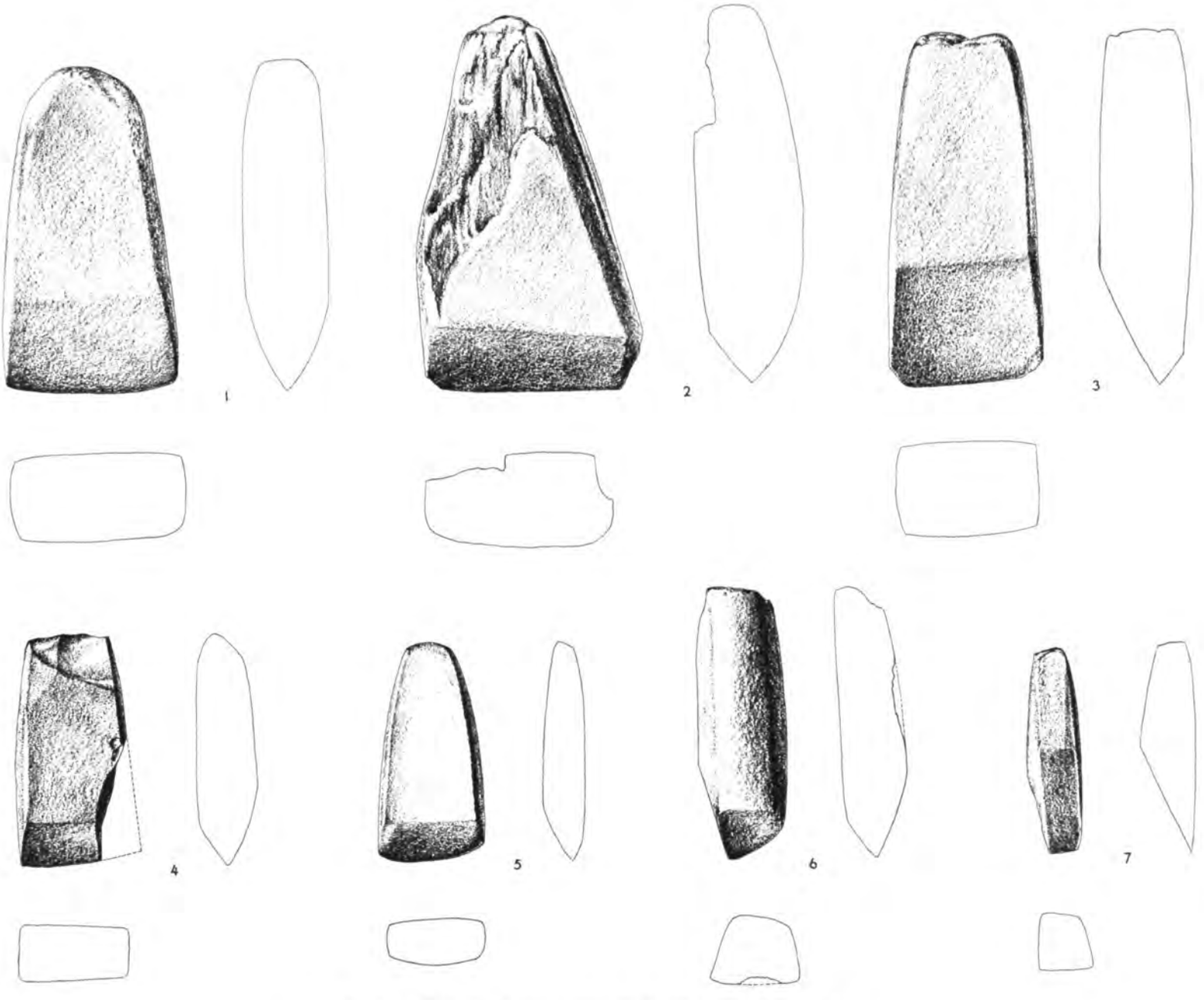

FIG. 34.—PHASE A. MEDIUM-SIZED AND SMALL CELTS. ACTUAL SIZE

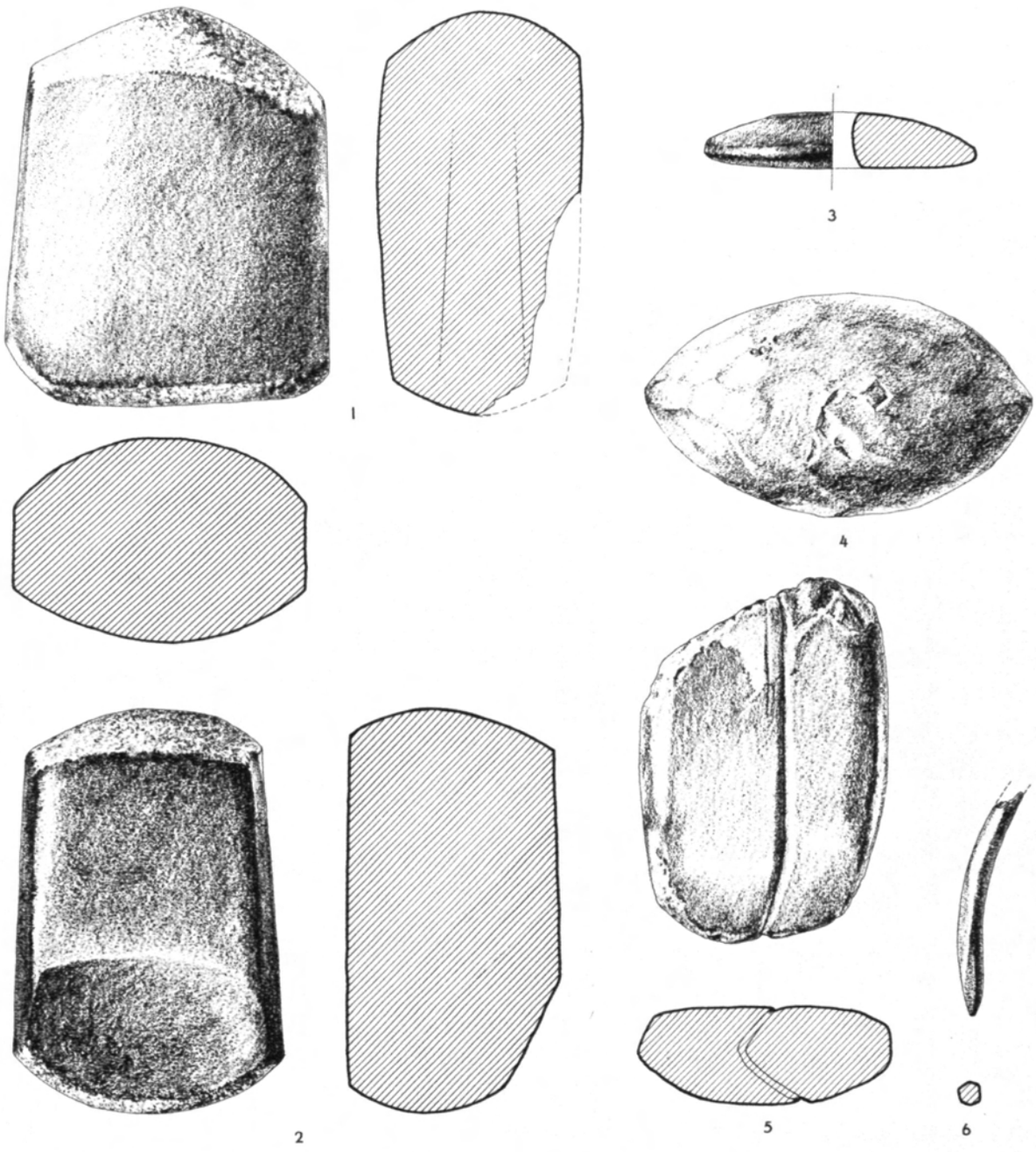

FIG. 35.—PHASE A. GROUND STONE OBJECTS. ACTUAL SIZE

taper off to the working edge. One is crudely shaped (Fig. 33:2) and seemingly made from a large pebble; it may have served in an adzlike capacity.

The seven medium-sized celts are carefully shaped; the surfaces are all ground and well polished. There are two axes (Fig. 34:1–2) and five adzes of the type shown on Figure 34:3. The average dimensions are 58 × 30 × 15 mm. Both axes have more or less rectangular transverse sections. No. 1 has a slightly tapered butt which is rounded off and shows signs of battering; it has gently sloping symmetrical beveling on both faces. One face of No. 2 has well defined steep beveling parallel to the working edge; poorly defined gently sloping beveling of rounded

outline covers half of the other face; one edge is grooved.[12] The five adzes are all rectangular in transverse section and approach the rectangular in elevation. The butts are squared and battered. Three have asymmetrical beveling. One (x5047) has no beveling; the faces slope gradually to the working edge. The bevel of the fifth (x5019) is poorly defined and has a rounded outline. The working edges of all the medium-sized axes and adzes are straight and very sharp.

Of the ten small celts three are axlike (Fig. 34:4), four are adzlike (Fig. 34:5), and three are chisels (Fig. 34:6–7). They are well finished and despite their small size must have served as tools, for the working edges are worn. The average dimensions of the axes and adzes are 39 × 19 × 9 mm. Both groups are rectangular in transverse section and approach the rectangular in elevation, with the butts tapering slightly in breadth. The butt ends in the main are squared; a few, however, are rounded. Most of the butts are battered. The working edges are in the main straight and very sharp. The majority have asymmetrical beveling, sharply defined for the most part. In one example (x4972*b*), one face is sharply beveled near the working edge, while the other face is merely tapered. The chisels are approximately the same in length and thickness as the axes and adzes, but the working edge is much narrower (6–11 mm.). They are more or less rectangular in elevation and transverse section. The working edge is sharp and slightly convex. Two are axlike and have poorly defined asymmetrical beveling (Fig. 34:6). No. 6 may originally have been a double-ended tool (upper end battered and worn from use) with the upper working edge formed by a simple bevel on one face only (as in Fig. 34:7). No. 7 has a squared and battered butt end. It has a steep well defined bevel on one face only, giving it an adzlike profile.

Pounders

Two objects have been used for pounding and/or grinding. One is certainly a reused celt (Fig. 35:2). One face still has well defined beveling at the broader end. Both ends are worn off and rounded from use, but otherwise the surface is well polished. No beveling is evident on the other specimen (Fig. 35:1), which possibly was originally a celt. Both ends are extremely worn by use, but the rest of the surface is well polished.

Whorl

The only example (Fig. 35:3) is made of limestone. The double-bored perforation is smoothly ground, and the entire surface is well ground and polished.

Slingstones

There are two (Fig. 35:4, Pl. 69:18–19), both of limestone and both prolate in form with slightly pointed ends, though one (Pl. 69:19) is more slender. They were pecked into their present shape, and the surfaces were smoothed by grinding and polishing.

Unclassified Objects

A grooved object (Fig. 35:5) of amphibole rock is highly polished. The two side edges are blunt. The lower edge, also blunt, is convex and battered. The oblique upper edge was broken in antiquity; that is, one face at this end is broken away, but whether this is the working edge and whether it was originally oblique is not known. This edge is still sharp and seems to have been used, to judge by the polish from use at this end. A narrow groove, deep enough to hold a thin cord securely, encircles the object lengthwise; perhaps it was carried by means of

[12] Quite a few of the ʿAmuq celts are grooved on one or both of the sides. This represents a step in the manufacturing. A large flat piece of stone was divided into smaller parts by grooving both faces in the same plane. When the grooves were deep enough, the stone was struck to split it along the grooves (cf. Fig. 66:2 and pp. 90 f.). When a celt was shaped from one of these smaller bits of stone, the ragged edges and usually the grooving disappeared during the grinding process.

a cord. We cannot judge how the object functioned originally. The broken upper edge would serve very usefully for scraping, but such use would not explain the battering on the lower edge.

A smoothly ground nail-like object of soapstone is broken off at the upper end; the lower end is bluntly pointed (Fig. 35:6).

Beads

Five Judaidah beads are illustrated in Figure 36 (Nos. 1–5).[13] The perforations are either single- or double-bored. These beads all show careful workmanship; they are smoothly ground, and the surfaces are highly polished. No. 1 is a simple round bead; No. 2 is somewhat barrel-shaped; No. 3 (Pl. 70:3) is a collared barrel. More unusual forms are No. 4, triangular, and No. 5 (Pl. 70:9), a "double-ax" bead. The latter is especially well made. The unbroken end of the perforation terminates in a slightly flaring collar. The wings, which are separated from the collar by tiny V-shaped notches, taper off to thin sharp edges.

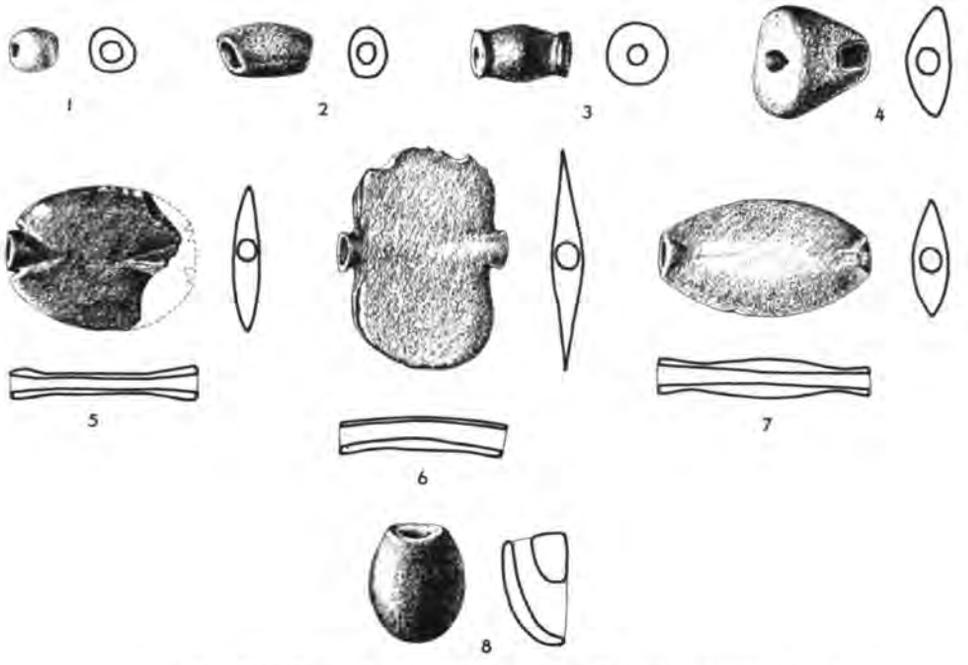

Fig. 36.—Phase A. Stone Beads and a Pendant. Actual Size

Two beads from Dhahab (Fig. 36:6–7) should probably on typological grounds be included with the Phase A material.[14] No. 6 (Pl. 70:8) is a fine example of a "double-ax" bead; its broad delicate wings taper to razor-like edges. No. 7 should probably be considered as a simplified version of the "double-ax" type. A flaring collar marks each end of the perforation, as in the other examples. The embryonic wings are thin and sharp at the edges.

Pendant

This simple pendant (Fig. 36:8) is made of chlorite-rich greenstone, smoothly ground and polished. It is plano-convex in section.

[13] Two other stone beads were found in Phase A context on Judaidah, but they are not catalogued. One (x5034) is registered as crystal, round, pierced lengthwise, incomplete; the other (Pl. 70:6) as green stone, round, pierced lengthwise. See p. 67 and Fig. 38:9 for a possible bone bead.

[14] Since the "double-ax" bead is present in the limited materials of Phase A but not in the fairly substantial bead materials of the other phases represented on Dhahab (see p. 15), it seems fairly safe to assume that the two Dhahab beads belong to Phase A. Our materials are too limited to indicate whether the "double-ax" bead is confined to Phase A, or whether it may in the future be shown to be part of the Phase B assemblage as well.

Stamp Seals[15]

There are six stamp seals, and three shapes are represented: a flat button-like type with irregularly shaped base and perforated ridge (Fig. 37:1, 3, 5; see Pl. 71:23 for top view of No. 3), a truncated pyramid with rectangular base (Fig. 37:2, 6), and a type with rectangular base and long tapering shank perforated at the narrow end (Fig. 37:4). The perforations are double-bored. All the seals have simple incised geometric designs of crossing lines.

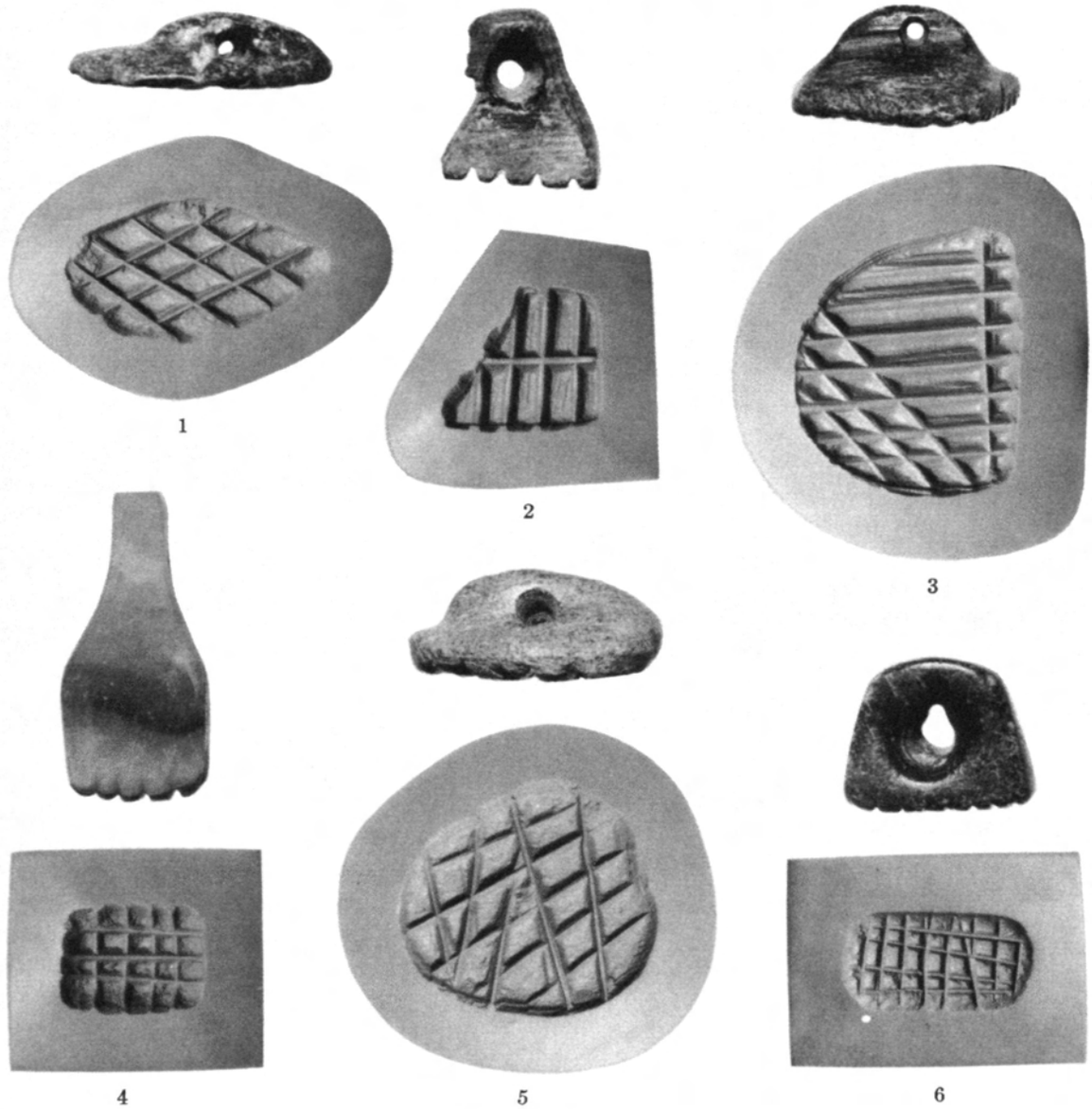

Fig. 37.—Phase A. Stone Stamp Seals. Actual Size

[15] It has been questioned whether these objects are really stamp seals or merely pendants. Our answer is that if one is willing to consider such objects in Phases F and G as stamp seals, those in Phase A should also be called stamp seals. They are much larger and heavier than any of the objects in the bead-pendant category. For some strange reason only three seal impressions were found in the ʿAmuq excavations, two in Phase G (see p. 296 and Fig. 236) and the other in the Second Mixed Range (see p. 470 and Fig. 369:4). But we assume from evidence found elsewhere (see e.g. Alexander Langsdorff and Donald E. McCown, *Tall-i-Bakun A* [*OIP* LIX (1942)] Pls. 81–82) that these geometrically decorated objects were used as seals.

Stone Identifications

RUBBING(?) STONES

x4955 limestone (cf. Fig. 31:2)
x4956 limestone (cf. Fig. 31:1)
x4957 marble (cf. Fig. 31:1)
x4958 limestone (cf. Fig. 31:1)
x4959 limestone (cf. Fig. 31:2)
x4993 limestone (cf. Fig. 31:2)
x5039 brown limestone (Fig. 31:2)
x5040 red limestone (cf. Fig. 31:1)
x5041 brown limestone (cf. Fig. 31:1)
x5124 brown limestone (Fig. 31:1)
x5157*a* limestone (Pl. 68:8)
x5157*b* limestone (cf. Fig. 31:2)
x5157*c* limestone (cf. Fig. 31:1)
x5157*d* limestone (cf. Fig. 31:2)
x5157*e–f* limestone (cf. Fig. 31:1)
x5159 limestone (cf. Fig. 31:1)
x5160*a* limestone (Pl. 69:17)
x5160*b–c* limestone (cf. Fig. 31:1)
x5161 brown limestone (cf. Fig. 31:1)

VESSELS

x4950 limestone (Fig. 32:1)
x4954 limestone (Fig. 32:6)
x4981 greenstone, almost monomineralic chloritic (Fig. 32:3)
x4982 greenstone, almost monomineralic chloritic (Fig. 32:2)
x4997 greenstone, almost monomineralic chloritic (Fig. 32:7)
x5033 greenstone, almost monomineralic chloritic (Fig. 32:4, Pl. 67:4)
x5048 talc-chlorite rock (soapstone) (Fig. 32:8, Pl. 67:2)
x5054 rusty, weathered; not identified (Fig. 32:5)

LARGE CELTS

x4975 diabase containing hornblende, plagioclase, and epidote
x5014 diabase containing hornblende, plagioclase, and trace of apatite (Fig. 33:2)
x5016 slate (low metamorphic schist)
x5045 calc-silicate rock (Fig. 33:3)
x5046 fine-grained gray quartzite
x5050 diabase containing hornblende, chlorite, plagioclase, and zoisite (Fig. 33:1)

MEDIUM-SIZED CELTS

x4968 magnesium-rich fibrous amphibole, $n_\alpha = 1.608$ (Fig. 34:2)
x4969 tremolitic amphibole, $n_\beta = 1.620$ (cf. Fig. 34:3)
x5015 nephrite (Fig. 34:3)
x5018 pyroxene porphyrite (Fig. 34:1)
x5019 nephrite associated with serpentine
x5020 tremolite rock containing some ore (cf. Fig. 34:3)
x5047 serpentine

SMALL CELTS

x4941 amphibole?
x4970 nephrite partly altered to serpentine
x4972*b* tremolitic amphibole

x4973 basic rock, fine-grained diabase (cf. Fig. 34:6)
x4974 hornstone
x4988 hornstone
x5009 magnesium-rich fibrous tremolitic amphibole, n_α = 1.608 (Fig. 34:7)
x5010 magnesium-rich amphibole rock (Fig. 34:6)
x5011 fine-grained rock (Fig. 34:5)
x5055 hornstone (Fig. 34:4)

POUNDERS

x4942 diabase or dolerite containing hornblende and plagioclase (Fig. 35:2)
x5044 diabase or dolerite (Fig. 35:1)

WHORL

x4960 limestone (Fig. 35:3)

SLINGSTONES

x5042 brown oölitic limestone (Pl. 69:19)
x5043 gray limestone (Fig. 35:4, Pl. 69:18)

UNCLASSIFIED OBJECTS

x4990 soapstone (Fig. 35:6)
x4996 magnesium-rich fibrous amphibole, n_α = *ca.* 1.616 (Fig. 35:5)

BEADS

D16*a* probably chrysotile (serpentine mineral) (Fig. 36:7)
D39*a* probably a serpentine mineral, n_β = 1.544 (Fig. 36:6, Pl. 70:8)
x4967 kaolinite (Fig. 36:1)
x4998 greenstone, almost monomineralic chloritic (Fig. 36:3, Pl. 70:3)
x4999 zoisite (zoisitized plagioclase) (Fig. 36:4)
x5056 fine-grained plagioclase rock with some green crystals (dolerite) (Fig. 36:5, Pl. 70:9)
x5062 dark red very soft weathered rock (see p. 41); not identified (Fig. 36:2)

PENDANT

x4943 weathered greenstone, rich in chlorite (Fig. 36:8)

STAMP SEALS

x4949 greenstone, almost monomineralic chloritic (Fig. 37:6)
x4951 in Antioch Museum; material not analyzed (Fig. 37:1)
x4952 in Antioch Museum; material not analyzed (Fig. 37:4)
x4992 in Antioch Museum; material not analyzed (Fig. 37:2)
x5000 in Antioch Museum; material not analyzed (Fig. 37:5)
x5059 greenstone, almost monomineralic chloritic (Fig. 37:3, Pl. 71:23)

WORKED BONE OBJECTS

About a third of the thirty-one examples still have sufficient original bone surface to permit identification. Represented are sheep or goat,[16] goat, gazelle, and fish. Most of the objects are made on metapodials.

Twenty of the examples are awls (Fig. 38:1–3), ranging from finely pointed tools to those with sharp but somewhat broader points. More than half still retain the articular surface as handle. The bone is usually split lengthwise, with half the articular surface remaining as butt (distal end preferred; see Fig. 38:1, Pl. 72:1). In two cases the whole articular surface is re-

[16] In most cases Mrs. Foss was unable to distinguish between the two, hence "sheep or goat." She has kindly supplied the following identifications for Phase A: fish (x5051), gazelle (x4946, x4986, x5001–2), goat (x4980), sheep or goat (x4945, x5003, x5037, x5049, x5061).

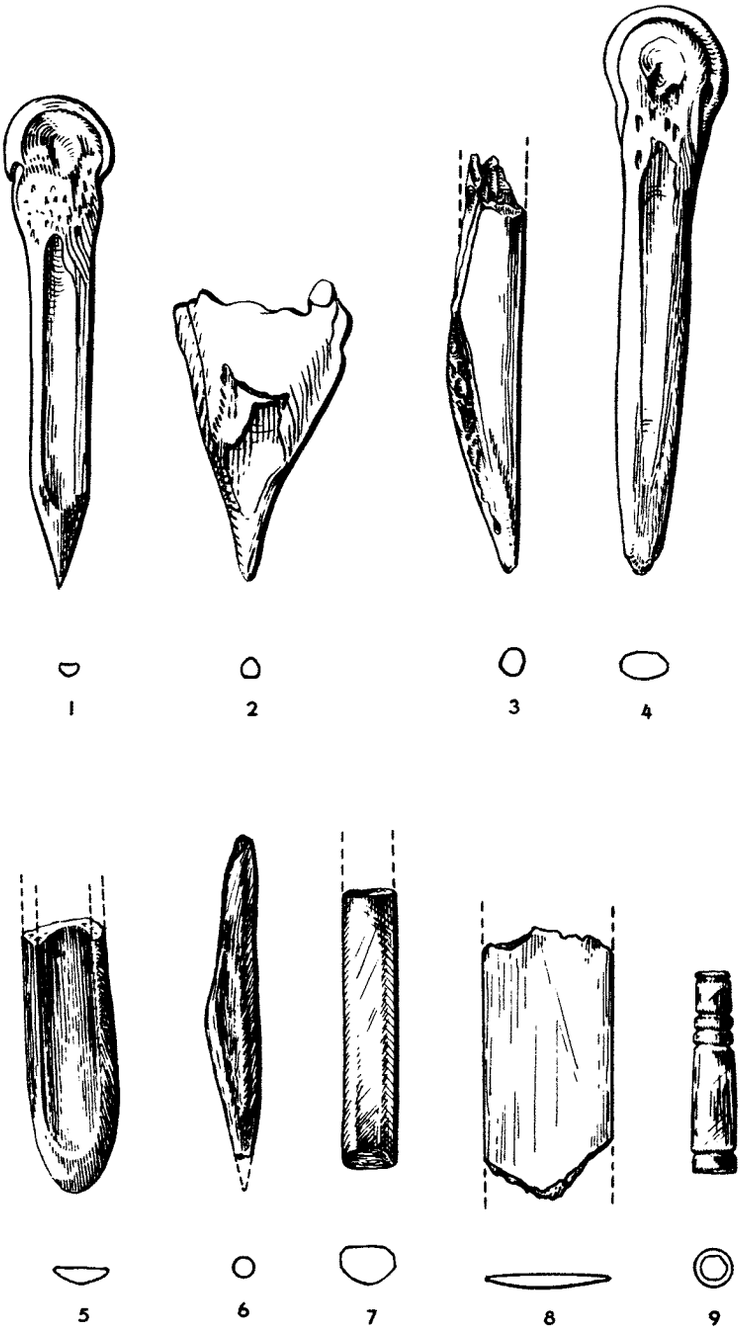

FIG. 38.—PHASE A. WORKED BONE OBJECTS. ACTUAL SIZE

tained (Fig. 38:2). Except for the butt ends the surfaces are smoothly ground, with special attention given to the points. These awls range in length from 37 to 92 mm., with an average of *ca.* 70 mm. One sharply pointed awl (Pl. 72:13) is made from a fish bone. In the shaping of the point a few barbs were removed. The entire shaft, including the barbs, has some polish. Eight examples are splinter awls (average l., 49 mm.). One (Fig. 38:3), which has quite a bit of grinding and is polished from use, is made from a rib edge. The others, made from metapodials, show little if any preparation (Pl. 72:9, 12). They have sharp points which are rough but show polish from use.

The surface and point of the tool shown in Figure 38:4 (Pl. 73:2) are smoothly ground and polished, but the working end is too blunt and flat for an awl. Moreover, it is scarred and nicked, suggesting that it was used on hard material, perhaps to retouch flint.

Two tool fragments are gougelike (Fig. 38:5). Both are smoothly ground and polished. The convex working edge is sharp. The missing butt ends may well have consisted of the articular surface, as in some of the awls.

Another bone is ground to form a double-pointed drill (Fig. 38:6). The lower end is finely pointed; the upper end is beveled to form a slightly broader gougelike end.

An articular end fragment (Pl. 76:10) is smoothed on the inner surface and polished on all surfaces. It has a perforation formed by boring in from either side of the head at the spot where the joint is naturally indented.

Several objects seemingly are made of thicker bone than that in metapodials. In two the cross section is roughly a flattened oval. One of these (Fig. 38:7) is carefully ground into shape and polished. Both ends are broken off; but the lower end must have been broken when the tool was made, for it is polished. The other object (Pl. 73:8) is less carefully worked. One end is broken; the other end is cut off obliquely to a blunt point. A third object (Pl. 73:6) is greater in diameter than the preceding two. The section was probably more or less oval. Part of the shaft is broken off along the entire length. Both ends are broken, but one seems to have been rounded off in its original state. The intact surface is carefully shaped and polished from use. The broken surface of the shaft is rough but polished from use, showing that the object was also used in much its present condition (but before the ends were broken). The size of the object and the rounded end indicate that it was possibly originally used as a burnisher.

Two blade fragments were found. Both edges of one (Fig. 38:8) are sharp, and the surfaces are well smoothed and polished. The other (Pl. 75:11), a rib fragment, is not quite so well finished. It may originally have been spatulate. The edges at the narrow portion are blunt. Where the implement broadens out, one edge is broken (and hence blunt, but shows polish from use), but the intact edge is fairly sharp.

The only bone object that seems to have served in a decorative capacity is an incised tube, probably a bead (Fig. 38:9, Pl. 76:4). The incising is fairly neat, and the object is smoothly ground and polished.

NONARTIFACTUAL MATERIALS

Flora

See Appendix II (pp. 540–43), where the following plants are accounted for:
Emmer, *Triticum diococcum* SCHÜBL.
Hulled barley, *Hordeum* sp.
Oat grass, *Avena* sp.
Rye grass, *Lolium* cf. *Gaudini* PARL.

Mollusca

Glycimeris (*Glycimeris*) *violascens* LAMARCK, a marine, Mediterraneum, form (x4995, x5035–36).
Cardium (*Cerastoderma*) *edule* LINNÉ, a marine, Mediterranean, form (x4994).

Vertebrata

Domestic: pig, *Sus scrofa;* sheep, *Ovis aries* (or goat, *Capra hircus*); ox, *Bos* (fragments of large horn cores suggest *primigenius* type).

III

PHASE B

INTRODUCTION

THE materials defined as of Phase B come only from Judaidah JK 3, being the yield from two layers of debris and one intervening floor (JK 3:25–24). The stratification was clear, and, although ground water was first encountered in the Phase B range (at 127.9 m. above sea-level), a bit of stone foundation indicated architectural occupation. The area exposed was 72.5 sq. m., the depth of the deposit 1.9 m. The materials in hand—mainly pottery, flints, ground stone and bone objects—developed in the main from the industries exhibited in Phase A. At least two new ceramic families appear, however, and these have counterparts to the east. The distinction between Phases A and B is made on ceramic grounds; the flint industry is uniform throughout the two phases (see p. 46).

The stratification and the consistency of the material give every indication of being reliable up to a point, that is, at the top of the consolidated layer of debris above floor 24, at 129.8 m. above sea-level. Above this comes the First Mixed Range, the complications of which are explained in some detail in the following chapter. It is sufficient to say here that the upper limit of Phase B remains as yet undefined. Phase C, more fully defined below, begins within the essentially continuing assemblage of Phase B at the point where the first Halaf influences are felt within the ᶜAmuq. It seems unlikely, on present evidence, that the materials of the *ca.* 129.8 m. level are quite so late.

ARCHITECTURE

Phase B contained traces of structures which were most probably domestic in character and of apparently rectangular unit plan concept.

Floor 24 was observed as a somewhat discontinuous level of charcoal flecks and debris, apparently not purposely packed. The level of ground water was approximately contiguous with it, and no special features of earth (mud brick, hearths, post-holes) were observed.

Lying immediately under this floor were a straight and a ⊤-shaped complex of stones (Fig. 39), obviously fragments of wall foundations of structures referable to the floor itself. The straight line ran northwest-southeast; the ⊤-shaped set of stones was oriented to the cardinal points and presumably implies corners of a pair of rectangular rooms.

The considerable depth of debris above floor 24 did not contain sufficient large stones to imply fallen stone walls. Unfortunately, the dampness of the earth in this range, even though it was above water level, prevented observation of either formed mud-brick or *tauf* building units, if such existed. It is, of course, possible that the extant foundations were overlaid by stone which was later dispersed for reuse, but we are more inclined to assume that the walls above the extant stone foundations were of either mud brick or *tauf*.

In the theoretical reconstruction of the First Mixed Range situation given in the next chapter, we suggest that the stone foundations of floor 23 (see Fig. 71) pertained to late Phase B or early Phase C.

POTTERY

The three wares of Phase A continue (with elaborations) as the principal ceramic products of Phase B, which is defined at present mainly on the bases of the following criteria:

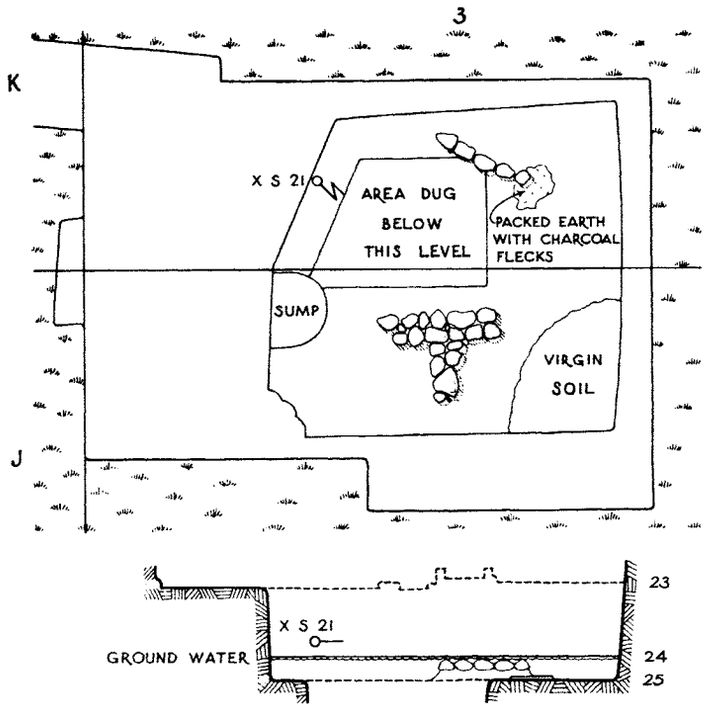

FIG. 39.—PHASE B. PLAN AND SECTION OF JUDAIDAH JK 3:25, SHOWING POSITION OF STONE FOUNDATIONS OF JK 3:24. SCALE, 1:200.

Continuation of Coarse Simple Ware
Appearance of Coarse Red-slipped Ware
Appearance of Coarse Incised or Impressed Ware
Continuation of Dark-faced Burnished Ware
Development of incised and impressed decoration on Dark-faced Burnished Ware (more in terms of neatness than in increased proportion)
Appearance of pattern burnish on Dark-faced Burnished Ware
Appearance of Dark-faced Unburnished Ware
Continuation of Washed Impressed Ware
Appearance of Brittle Painted Ware
Appearance of Lustrous Red-Film Ware

Stratified material from the moment of transition between Phases B and C is not yet in hand (see pp. 100 ff.). It is thus possible that there was actually a longer development of Phase B type products than our material indicates (see e.g. p. 505). On the other hand, it is just as possible, and perhaps even more probable, that there was a considerably earlier manifestation of Phase C than that which we discovered on Kurdu (see p. 137). Presumably all the main Phase B ceramic types described below continued at least into the beginning of Phase C, which is arbitrarily defined as beginning with the appearance of Halaf pottery in the ʿAmuq. In the Phase C manifestation as it is known on Kurdu certain of the Phase B pottery types are not apparent, and there has been sufficient time for a local painted style in imitation of Halaf to develop.

The Phase B pottery is described below on the basis of a total selected field sampling of 1,340 sherds. There are also two vessels of Dark-faced Burnished Ware whose profiles are complete (Fig. 45).

Coarse Simple Ware

(6–11% of total selected sherd bulk)

This ware continues from Phase A (see pp. 47–49) with no observable change.

About half of the sherds examined are of the soft type which is dominant in Phase A (see p. 48). Most of the remainder are brittle sherds that are very fine-textured (8–14 mm. thick). They break with an angular fracture and have a resonant sound when struck. The paste is of the very fine-grained *serpentine* type and is tempered with fine straw in lengths of less than 12 mm. and with cattail fuzz. The clay was probably very plastic, easily worked, and needed the addition of straw and cattail seeds to stiffen it when it was being shaped. It resembles the ʿAfrin Valley clay in mineralogical composition and working properties. Its fine texture suggests that it was levigated either naturally by river action, in deposition of very fine clay on the flood plain, or by man. The sherds have a surface coloration of cinnamon to pink that penetrates to a depth of 1–2 mm., where there is a sharp change to the velvety black that constitutes the core color. Surfaces are smooth but not burnished. The sherds represent a good quality of undecorated ware.—Matson.

The forms indicated by the sherds show little change from those of Phase A, a fact which indicates that there was little specialization or standardization in the types of forms produced. There is an evident increase in the proportion of low bowls (Fig. 40:1–5) and of roughly collared vessels (Fig. 40:20–25), these being now about equal in number to the ovoid jars (Fig. 40:6–16). Two new forms are indicated, each by only one example: a jar with squat collar (Fig. 40:24) and a wide-mouthed vessel with broad splayed rim (Fig. 40:26).

Bases are normally flat or slightly raised flat (Fig. 40:27–29), but one crude ring base (Fig. 40:31) and one low pedestal base (Fig. 40:32) were found. A small rounded base (Fig. 40:30) and a heavy flat base with traces of finger-scoring in the bottom (Fig. 40:33) are also unique. As well as the normal smaller ledge handle (Fig. 40:17), one large and exceedingly utilitarian example (Fig. 40:19) was found.

Decoration by impression to give "ropes," plain plastic bands of clay, and blobs of clay continue from Phase A. Incised bands (Fig. 40:16, Pl. 11:2) and a wishbone-shaped plastic addition (Fig. 40:18) were not apparent in the comparable Phase A material.

Coarse Red-slipped Ware

(2–7% of total selected sherd bulk)

This ware differs from the Coarse Simple Ware (see pp. 47 f.) only in the addition of a red slip and usually burnishing (see Pl. 11:8–9).

The slip is evidently ocherous clay of a fairly dense red-orange color and of variable thickness. The softness of the clay has allowed considerable abrasion, which, coupled with pits left by burned-out straw, makes an intact slip-covered surface rare. Burnish is usual in this group, but the strokes are seldom contiguous; while usually more or less horizontal, they are sometimes vertical. In a few cases the slip and burnish stop just below the rim on the inside (Fig. 41:5–6, Pl. 11:9).

Red slip occurs on sherds of both *calcite* and *serpentine* paste, the soft and brittle types (see p. 48), which range from granular in texture to heavily straw-tempered. It adheres best to the harder less friable sherds and has a thickness of *ca.* 0.15 mm. The surface is crazed, especially on sherds with thicker slip applications. The slip was probably made from red mountain clay such as that sampled at Dhahab.—Matson.

The forms indicated by the sherds are essentially those of the Coarse Simple Ware: low open bowls (Fig. 41:1–3), simple deep bowls and ovoid jars (Fig. 41:4–6), collared jars (Fig. 41:7–9). The usual base is flat to slightly raised flat (Fig. 41:10–11), but one low incipient pedestal base (Fig. 41:12) and one higher drum base with piercings (Fig. 41:13) appeared.

Fig. 40.—Phase B. Coarse Simple Ware. Scale, 1:3

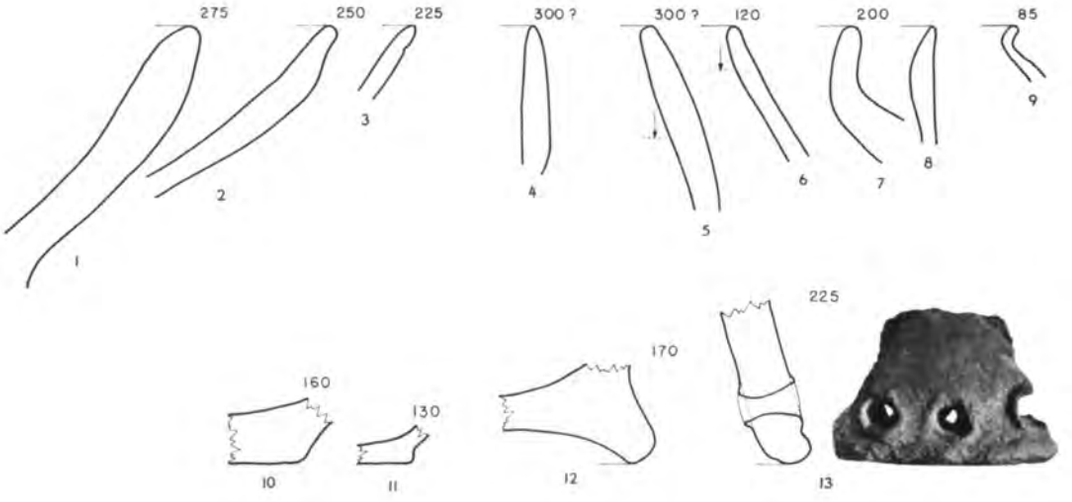

Fig. 41.—Phase B. Coarse Red-slipped Ware. Scale, 1:3

It is possible that the base sherds and some of the more fragmentary rim sherds belong to the Coarse Impressed Ware (see n. 2).

Coarse Incised or Impressed Ware
(3–8% of total selected sherd bulk)

This ware also differs from the Coarse Simple Ware only as regards surface treatment and decoration. Some 60% of the sherds carry a red-orange slip, probably ocher; some 30% are without slip; and *ca.* 10% show careless and irregular splotches of the slip material (see Pls. 11:5–6, 80:7). Burnishing is quite rare in this group but does appear on eight large fragments of one jar (Fig. 42:9) and on several other sherds; the application is careless and open.

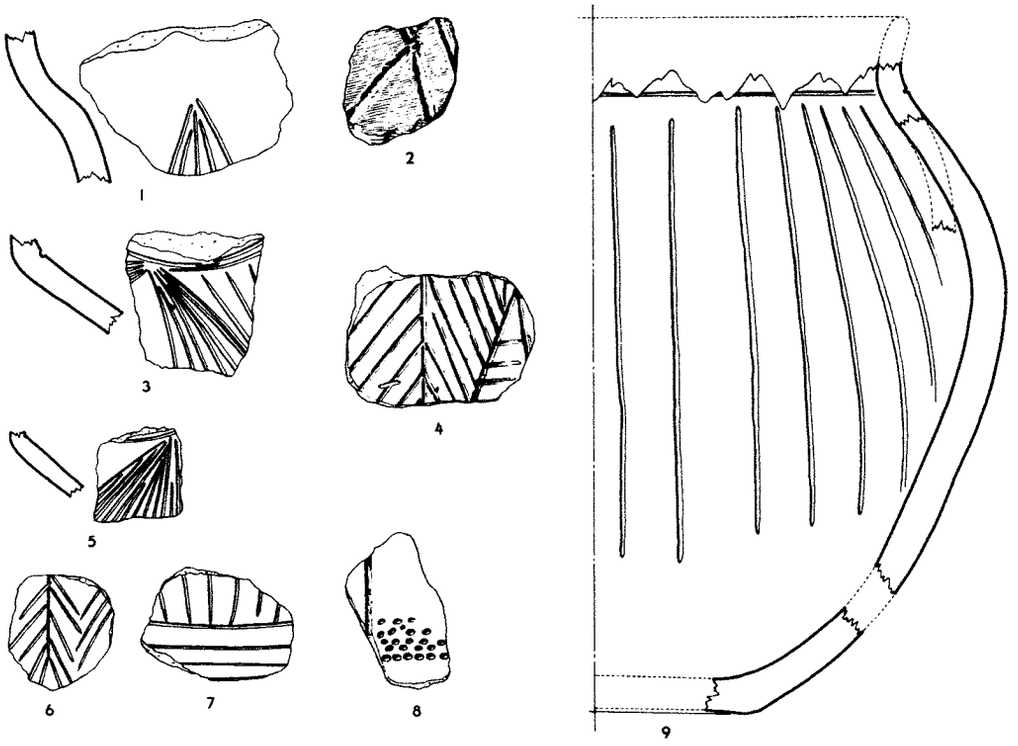

Fig. 42.—Phase B. Coarse Incised or Impressed Ware. Scale, 1:3

The comments concerning the paste of the Coarse Red-slipped Ware are applicable here. Many sherds have a badly weathered red wash (only 0.03 mm. thick) on the exterior. Possibly this represents the beginning of the use of red clay for paint as opposed to slip. Almost all the sherds show only surface oxidation and a black core, which might also indicate a treatment different from that given the other simple wares.[1]—Matson.

The sherds indicate only one form, a simple low(?)-collared jar. On the basis of eight large sherds, obviously all from one pot, a reconstruction (Fig. 42:9) was attempted; the dotted rim fragment exists but is warped so that it does not fit the extant shoulder fragments. However, the restoration must generally approximate the typical jar form.[2]

[1] [To the specific point of the general similarity in appearance of these sherds and Hassunah incised ware, Dr. Matson said that there is no question in his mind but that the sherds examined are of local ʿAmuq clay.—R. J. B.]

[2] As already mentioned, the bases and certain of the rims classified with the Coarse Red-slipped Ware might just as well belong here. Since the clay of both groups is the same, the only basis for differentiation is the presence or absence of incised or impressed decoration, which tends to be applied to the shoulder and median body of the pot rather than to the rim or base.

The important criterion for classifying this ware is the incised or impressed decoration (Fig. 42:1–9, Pls. 11:4–7 and 80:7) of lines or groups of lines applied in most cases before the slip (if any) was added and by means of a not particularly sharp tool. The lines are tectonically ordered: vertically, horizontally, or diagonally. A motif of rays from a central point (Fig. 42:1–3) is especially common, and a band about the neck is often used. Plain punctations appear on only one example (Fig. 42:8).

Dark-faced Burnished Ware

(52–57% of total selected sherd bulk[3])

This ware continues from Phase A with no essential change in paste or surface (see p. 49), but the vessels are somewhat better made. Body walls are generally thinner, and burnish is somewhat more carefully executed. Instances of red-slipped and of fine black surfaces increase in proportion but are still rare, the typical sherd showing much the same dull gray-brown buff and not quite completely burnished surface (see Pl. 80:1). One new surface effect was observed, which was restricted to the inside of more or less closed jars, where burnishing would have been difficult. Such inner surfaces apparently were smoothed with a paddle or scraper while the clay was still soft, but the actual effect was sometimes a roughening rather than a smoothing, for the edge of the tool caught and dragged large particles of grit along with it, forming troughlike scorings and a generally coarse pitted effect (see Pl. 11:14, left).

The major difference between the Phase A and the Phase B sherds is in the degree of oxidation. In Phase A, 34% of the sherds are black throughout, the remainder having an oxidized zone beneath the black surface which was obtained during the last stages of firing. In Phase B, only 15% of the sherds are black throughout, a fact which may indicate better-controlled kilns for the firing of the pottery. Braidwood states that more red burnished sherds appear in Phase B. A slip 0.03–0.15 mm. thick occurs on some of the Phase B sherds, probably an indication of Kurdu influence, for slipped surfaces are typical at Kurdu on the burnished ware but do not occur in this group at Judaidah in Phase A. The Judaidah burnished sherds that are slipped have reddish-brown to red surfaces instead of the very dark coloration.—Matson.

The important changes in Phase B are the increasing competence in potting, the probable appearance of new forms as well as the development of older ones, the development of impressed and incised decoration, and the appearance of pattern burnish. The more or less straight-sided bowls (Fig. 44:1–25), so overwhelmingly common in Phase A, are now practically equaled in proportion by collared jars, each type making up approximately 40% of the sherd bulk of this group.

Very low bowls become more common in Phase B. The rim profile is very simple (Fig. 43:1) but there is some variety in the ring or low pedestral bases which probably refer to such bowls (Fig. 43:6–8). These base sherds are burnished only on their inner surfaces. Somewhat deeper bowls, with subhemispherical profile, also occur (Fig. 43:2–5). There are also low open bowl sherds which show an abrupt carination near the rim (Fig. 43:9–14, Pl. 11:10–11). For Figure 43:9–11 there are possible antecedents among the Dhahab sherds assessed as of Phase A (see p. 52 and Fig. 27:3–8), although none occur in the relatively smaller sherd sortings from Phase A on Judaidah. It would appear, however, that Nos. 12–14, with marked thickening at the carination and burnish on the outside only (down to the carination), represent a Phase B development. Such bowls most probably had simple flattened bases, though the angle of the sherd profiles would also fit the ring bases mentioned above, which are burnished only on the inner surface. The carinated sherds are not numerous, making up less than 5% of the total burnished ware sampling.

[3] Of this group, 78–83% have plain burnished surfaces, 12–17% have impressed or incised decoration, 4–9% have pattern burnish.

The most characteristic bowl profile is hemispherical (Fig. 44:1–25), a form which is common in Phase A. The proportion of flattened lips (cf. Fig. 22:2, 4) has now decreased in favor of plainer rounded lips. One reconstructible bowl (Fig. 45:1) must be quite typical. There is a slight increase in the proportion of plastic rim bands (Fig. 44:15–20) but a decrease in the number of ledge handles (Fig. 44:21–26). The ledges tend to be small and vestigial, and one is pierced for string attachment (No. 26). Plastic blobs (Fig. 44:27) remain relatively rare.

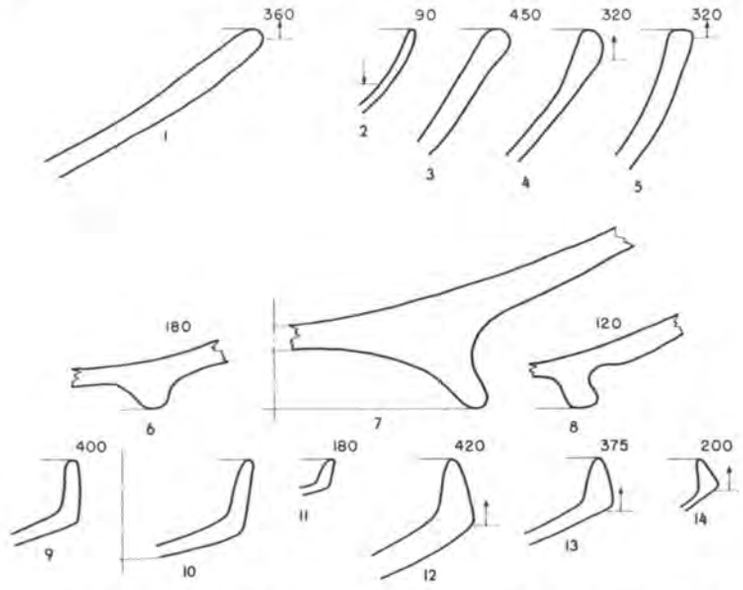

FIG. 43.—PHASE B. DARK-FACED BURNISHED WARE. SCALE, 1:3

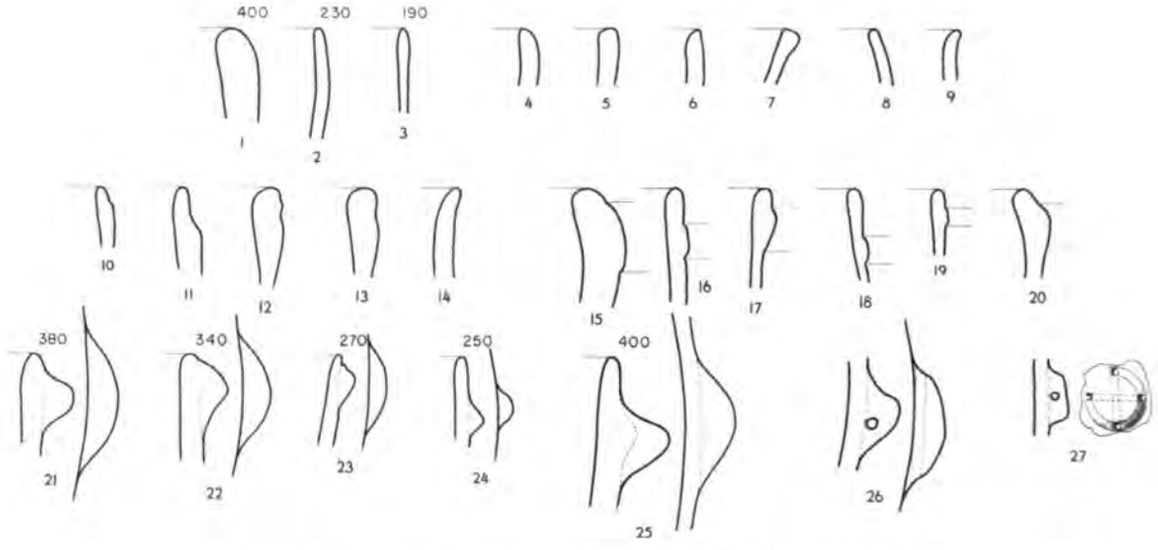

FIG. 44.—PHASE B. DARK-FACED BURNISHED WARE. SCALE, 1:3

It may be assumed from the Dhahab sampling that the hole-mouth profile was somewhat more common in Phase A than the Judaidah sorting indicates (see pp. 50, 52). It may be noted that our distinctions between hemispherical bowls and hole-mouth jars are arbitrary. All the sherds shown in Figure 46 (also Pl. 12:9) indicate a marked curve inward from the median body to the lip, but some are burnished both inside and outside, while others show a burnish

stop just below the lip inside. The latter (Fig. 46:1–4) are taken to be the most typical examples of the hole-mouth profile. Examples with burnish on the inside (Fig. 46:5–6, 8, 12–16) probably served much the same function as the normal hemispherical bowls, and apparently plastic rim bands, grooves, and ledge handles are restricted to this class. A small group of rims (Fig. 46:10–11) conform to those of the thick-lipped unburnished group which becomes stabilized in Phase B (see pp. 77 f.), although these examples have burnish on their outer surfaces

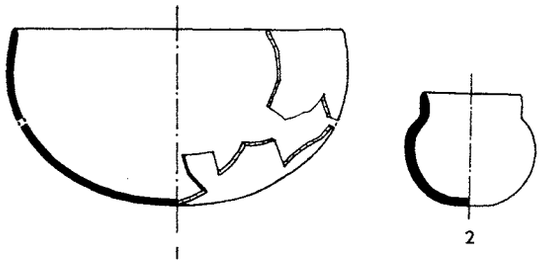

FIG. 45.—PHASE B. DARK-FACED BURNISHED WARE BOWL (x5070) AND JAR (x4917). SCALE, 1:5

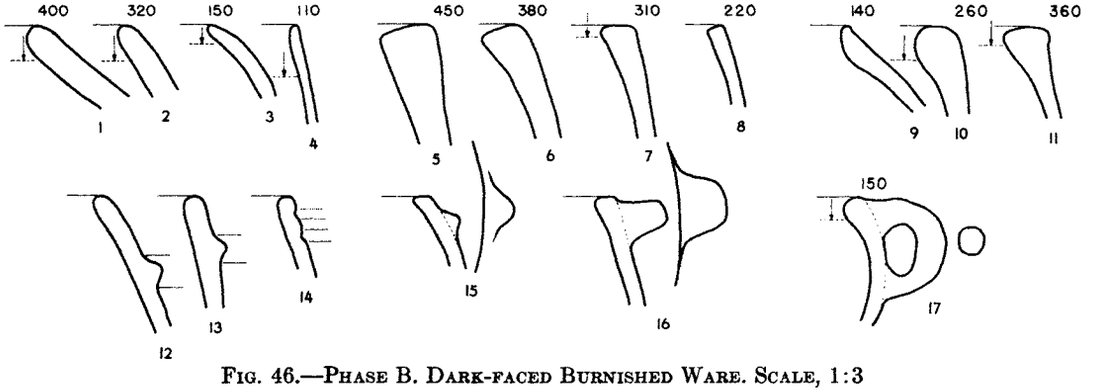

FIG. 46.—PHASE B. DARK-FACED BURNISHED WARE. SCALE, 1:3

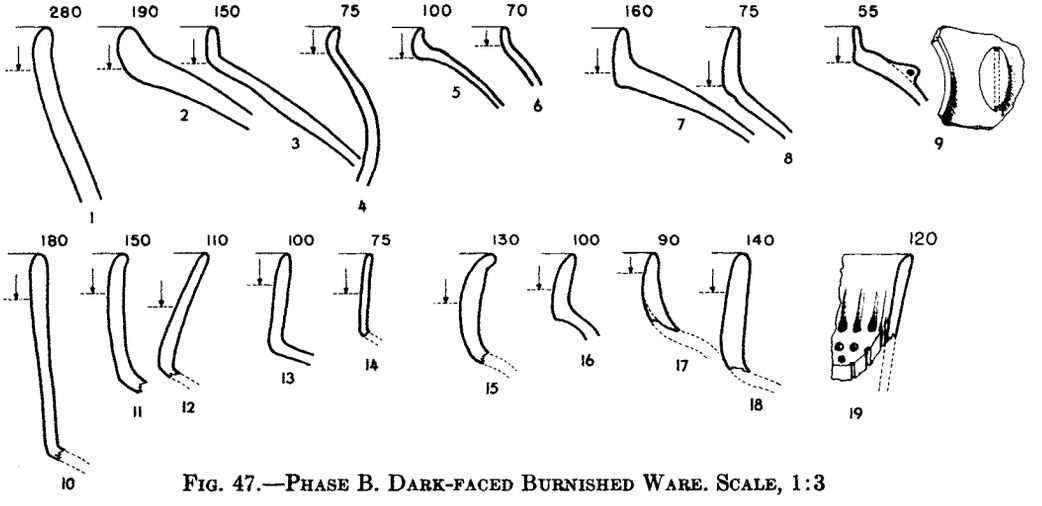

FIG. 47.—PHASE B. DARK-FACED BURNISHED WARE. SCALE, 1:3

and rims. A final special class of incurved-rim profiles is represented by several sherds indicating bowls of rather small diameter and with loop handles (Fig. 46:17). One loop handle was broken so as to indicate that it had been inserted in a hole made to receive it.

The collared jars can again be divided into two classes, as in Phase A. Those with low collars (Fig. 47:1–9, Pl. 12:13–14), which were probably modeled without addition of extra clay, are much less numerous than those with high added collars (Fig. 47:10–19, Pl. 12:20). A

complete low-collared pot (Fig. 45:2, Pl. 13:5) is well below the normal size as indicated by the sherds. There are, naturally, some collars of intermediate height (Fig. 47:16–17, Pl. 12:17), possibly formed in either way. Three low-collared sherds have a pierced blob of clay added for string attachment (Fig. 47:9). Burnishing does not extend much below the lip inside the collars. The increase in height and thinness of the high collars as compared with the Phase A examples is typical of the better potting of Phase B. A few high-collared rim sherds have a

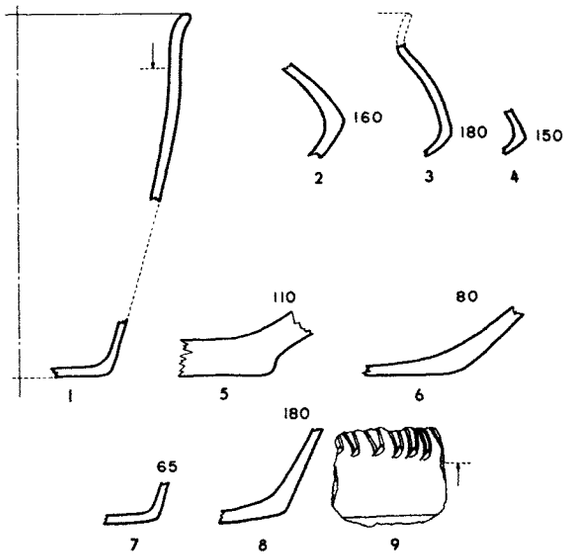

FIG. 48.—PHASE B. DARK-FACED BURNISHED WARE. SCALE, 1:3

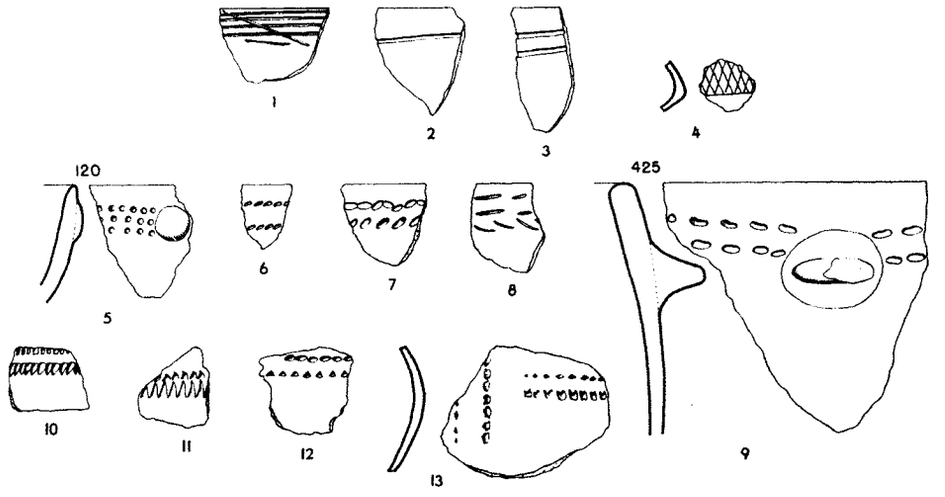

FIG. 49.—PHASE B. DARK-FACED BURNISHED WARE. SCALE, 1:3

rather remarkable secondary feature, a hemispherical section of clay added within the collar and pierced while still soft to form a kind of strainer (Fig. 47:19, Pl. 11:12). Most of these sherds have pattern burnish on the outer surface (see Fig. 51:4).

Two forms appeared among the sherds in such fragmentary condition as to make their classification uncertain. Several base and rim sherds—one base and one rim certainly of the same pot—seem to indicate a kind of beaker (Fig. 48:1). A few body sherds indicate a small jar with a carination at the median body (Fig. 48:2–4, Pl. 12:24–25), probably to be restored with a collared rim.

In addition to those already mentioned, simple flattened to slightly raised flattened bases (Fig. 48:5–9) occur. An example with impressed decoration on the outside and no burnish inside (Fig. 48:9) must come from a collared jar.

Occasional sherds have small holes (Pl. 12:7) which were bored after firing. There are not sufficient examples, however, to demonstrate whether the holes were for string attachment or for mending.

The proportion of decorated sherds is rather small (see p. 73, n. 3), and impressed decoration is the most common (Figs. 49–50). For the more or less straight-sided bowls the impressed decoration shows little or no improvement over that of Phase A, being restricted to bands of round, ovoid, or thin crescentic impressions (Fig. 49:5–9, Pl. 12:5). Incision, with a sharp tool, is very scarce and is restricted to bands save for one case of crosshatching on a small carinated body sherd (Fig. 49:4). There is now a class of impressed decoration, often large bold rocker impressions (Fig. 50:1–3, Pl. 11:14–15), applied in bands where the burnishing was purposely omitted. This occurs on body sherds of collared jars. It is on such sherds that the rough pitted inner surface mentioned on page 73 is so apparent. Rocker-impressed decoration appears on

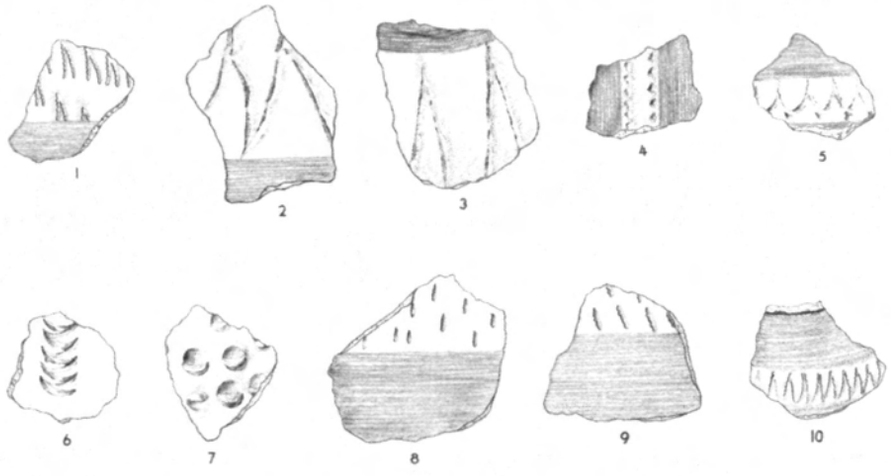

FIG. 50.—PHASE B. DARK-FACED BURNISHED WARE. SCALE, 1:3

a smaller scale in Phase A on Washed Impressed Ware bowls and is present in the Dhahab selection. Collared-jar body sherds with unburnished bands also show smaller isolated impressions (Fig. 50:4–10, Pl. 11:13), and one sherd of this type seems to carry an allover pattern of deep gouges made by the potter's fingernail (Fig. 50:7). A few of the thinner finer jar sherds, usually those with the rarer fine black burnished surface, show bands or lines carefully impressed with a jagged implement after burnishing (Fig. 49:10–13, Pl. 12:18–19). This type of decoration is sometimes called "excised."

A new decorative technique, which appears on a small quantity of sherds, is pattern burnish (Fig. 51, Pls. 11:12 and 12:11, 24, 25). Usually on jars, and especially on the collars, it consists of burnish strokes applied with some pressure in definite bands or even panels of hatches or crosshatches. It is usually, but not always, done after preliminary light allover burnishing. Again, it seems to be applied more usually to finer examples, and some extra care in firing is indicated by the higher proportion of clearer black or even red-orange surfaces in this group.

DARK-FACED UNBURNISHED WARE
(3–7% of total selected sherd bulk)

The clay is essentially that of the Dark-faced Burnished Ware (see p. 49), differing only in a higher proportion of coarse grits, since all the vessels represented are large. The obvious

difference from the burnished ware is in surface treatment (see Pl. 12:15–16), the unburnished surfaces having no luster and being more drab in color. The surface color varies from light gray-brown buff to dark gray. The outer surfaces are usually wet-smoothed, often with an excess of water, which had the effect of floating out the grits and leaving a granular finish (see Pl. 15:11) which feels like sandpaper. The inside surfaces have the coarse troughed effect left by the scraping tool. For all the surface difference, however, the clay is easily recognizable as that of the Dark-faced Burnished Ware.

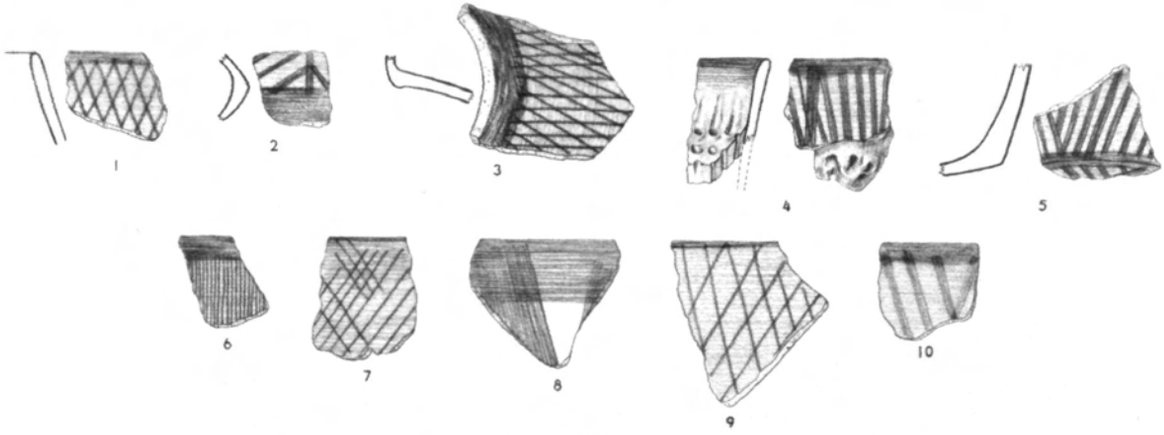

FIG. 51.—PHASE B. DARK-FACED BURNISHED WARE. SCALE, 1:3

The forms which the sherds indicate are preponderantly large hole-mouth jars with thickened rims, undoubtedly used as cooking pots. The normal lip has a plain rounded rail-like section (Fig. 52:7–11); variant examples are more exaggerated (Fig. 52:12–13). Since no bases were found, it is assumed that they were generally round.

There is a small class of deep bowls with thickened lips (Fig. 52:4–6), whose inner surfaces show the coarse scraping effect mentioned above. The coarse inner surfaces might indicate that these were used as pot lids. There are also a few sherds of forms usual for the Dark-faced Burnished Ware: bowls (Fig. 52:1–2), hole-mouth jars (Fig. 52:3), and high-collared jars (Fig. 52:14–16). These may be no more than casual instances where the potter neglected his final burnishing operation.

Two eccentric sherds appeared. One seems to be a kind of pedestal base, but it is open in the center; it is lightly burnished on the area which would normally be the floor of a bowl (Fig. 52:17). The other seems to indicate some kind of scoop or large spoon (Fig. 53).

No handles or other secondary features are evidenced by the sherds As in the Dark-faced Burnished Ware, there are occasional sherds with small holes bored after firing (see p. 77).

WASHED IMPRESSED WARE

(8–13% of total selected sherd bulk)

This ware continues from Phase A with no perceptible change. The sherds indicate a quite standardized class of hemispherical bowls with more or less straight sides and simple flattened bases. They must be very similar in profile to the more or less straight-sided hemispherical bowls of the Dark-faced Burnished Ware (cf. Fig. 45:1). The normal rim has a plain rounded lip (Fig. 54:1–3), while flattened lips and thickened rims (Fig. 54:4–5) are rare.

The characteristic thin red wash, which forms a band on the outer rim, is found in all cases. The various types of decoration appeared in approximately the following proportions on the sherds noted:

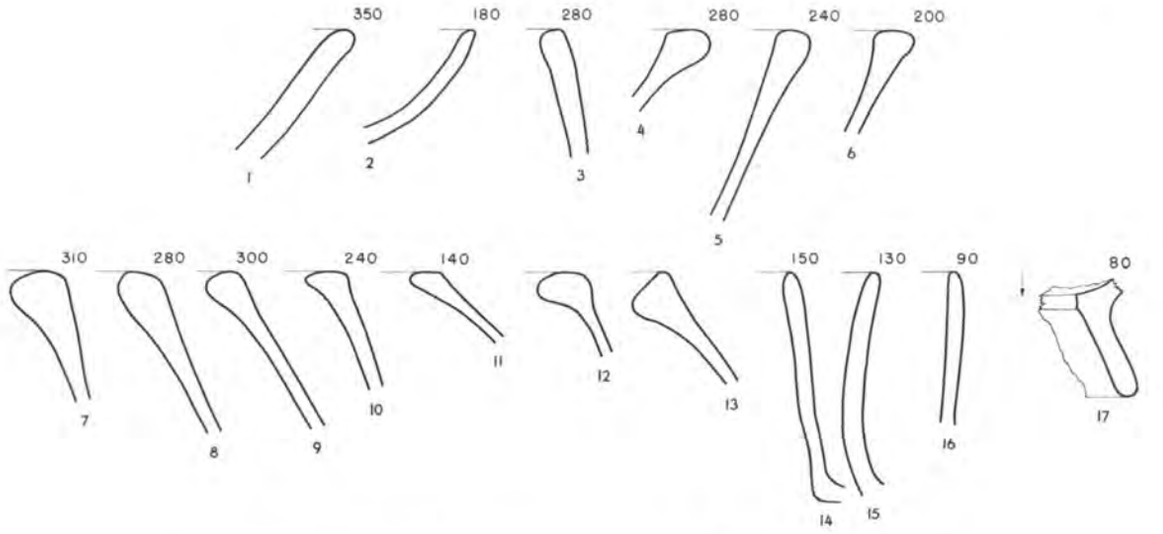

FIG. 52.—PHASE B. DARK-FACED UNBURNISHED WARE. SCALE, 1:3

FIG. 53.—PHASE B. DARK-FACED UNBURNISHED WARE SCOOP FRAGMENT. SCALE, 1:3

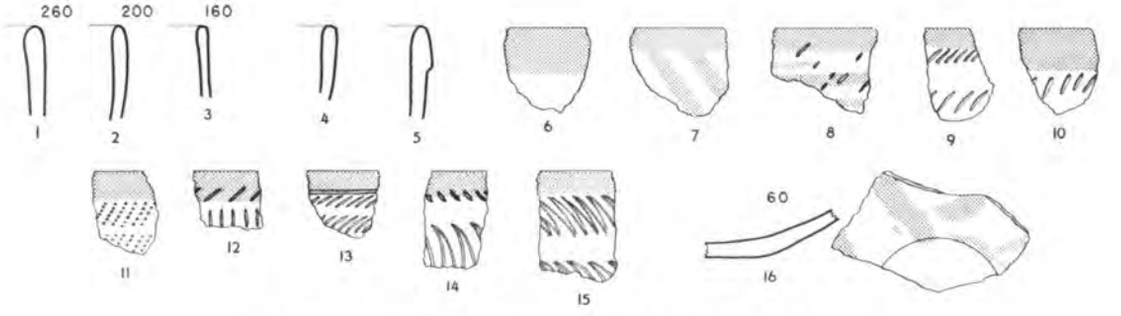

FIG. 54.—PHASE B. WASHED IMPRESSED WARE. SCALE, 1:3

Ca. 18% with wash alone, either just a rim band (Fig. 54:6) or with oblique lines below the rim band (Fig. 54:7, Pl. 15:16)

Ca. 18% with smooth-profiled impressions of thin crescentic or elliptical shapes (Fig. 54:8–10)

Ca. 8% with small punctate impressions (Fig. 54:11)

Ca. 37% with jagged shell impressions (Fig. 54:12–13)

Ca. 18% with rocker impressions made with a shell (Fig. 54:14–15, Pl. 15:18)

The impressions were applied on and below the rim band. Where there are oblique lines of wash below the rim band, the impressions were applied through them without respect to register (Fig. 54:8).

There is nothing new in the way of decorative technique, the ware evidently having been standardized in Phase A.

Brittle Painted Ware

(5–10% of total selected sherd bulk)

This small painted series is one of the marked ceramic additions of Phase B. The vessels were handmade; some of the core may be dark, but the normal sherds are completely oxidized. The paste color varies from creamy or light orange-buff to brown-black, but is normally orange-buff. The inclusions are mineral, varying from sparse to heavy in concentration, and appear to be more or less coarse sand, occasional micaceous-like flecks, and a few red lumps which may be ocher. They are approximately white, red, brown, and black in color; the sizes amount to 7% fine, 25% medium, 12% coarse, 51% very coarse. The paste is dense and granular, considerably more brittle than any clay noted so far, and the fracture tends to be rough. The surface color varies from light creamy buff to brown-black, but is normally orange-buff (Pl. 80:2) or orange-brown buff; a little luster results from burnishing. Smoke-darkened surfaces are not rare. The surface is generally smooth but may show the rough tool-scraped effect on the insides of jars that appears with the Dark-faced Burnished and Unburnished Wares. The surface (see Pl. 14:1–3, 5) is wet-smoothed; *ca.* 75% of the sherds are burnished with either horizontal or crisscross strokes, rarely contiguous or closed. Usually the burnishing was done while the clay was rather soft, so that little rills appear. A few sherds have a smooth polished effect with no burnish strokes apparent. There is occasionally abrasion of the surface, and some spalling occurs, especially over the white inclusions.

The paint, which seems usually, but not always, to have been applied after burnishing, varies from red-orange to purple-red or black on smoked sherds, the normal color being red-orange brown. The darkness increases with the concentration of the paint, which is variable and nonpenetrating and is probably a simple solution of ocher.

This small mixed group is difficult to discuss technologically because there are several types present and not many sherds of any one kind. They resemble the Coarse Simple Ware brittle sherds (see p. 70) in texture but are oxidized throughout. The texture varies from very fine to sandy, and no straw impressions are present. Many of the sherds represent imported[4] vessels made of levigated clay and fairly high-fired. A paint rich in iron, probably prepared from red mountain clay, was used for decoration. The painted designs are red in color except in the reduced areas, where they are dark brown, purple, or black. The technique of surface blackening may have been used on some vessels. The sherds can be grouped into three main types:

(*a*) Extremely fine-textured sherds with smooth lustrous surface that is buff to almost white in color, made from a *calcite* paste. The pottery was fired slightly above 800° C., for the calcite began to decompose.

(*b*) Sherds characterized by small red lumps in the clay. The reddish clay contains sericite, which may indicate an imported ware (see n. 4). The clay is tempered with crushed potsherds (not a local trait) and subrounded red clay lumps.

(*c*) Thin brittle hard sherds. These are high-fired, for the thin sections show that the calcite has decomposed and formed a reaction zone with the surrounding clay. The quartz and chalcedony grains are shattered, another indication of high and rapid firing. The paste is of the *serpentine* type, derived from a weathered basaltic area, but contains sericite, an indication that the vessels were probably from another site in the ʿAmuq or perhaps from a greater distance. A similar fabric is characteristic of the Phase F Smooth-faced Simple Ware (see p. 230).—Matson.

The forms indicated by the sherds are not numerous. There is a class of high-sided hemispherical bowls (Fig. 55:5–7), probably close in profile to those of the Dark-faced Burnished Ware (cf. Fig. 45:1). The lips are generally plain rounded; a slightly outrolled lip (Fig. 55:6)

[4] I.e., not made of any of the raw ʿAmuq clays examined nor of any of the clays common in the majority of the sherds from Judaidah, Chatal Hüyük, and Taʿyinat. No implication of great distance from the ʿAmuq sites is implied, though the sherds of group *b* would seem to be truly foreign sherds.

may be accidental. Being open, these bowls may carry painted decoration inside as well as outside. A subclass is indicated by a few sherds of lower hemispherical bowls (Fig. 55:3–4); here again the painted decoration may be applied internally as well as externally. Two sherds with rather complex motifs (Fig. 55:1–2) probably belong to this subclass. A few sherds must represent small hole-mouth jars (Fig. 55:8–9). Simple collared jars also appeared, again not in great quantity, but giving evidence of both low- and high-collared forms (Fig. 55:10–11). The fact is that all forms indicated by the painted sherds are represented in the Dark-faced Burnished Ware, although the painted ware, in spite of the small proportion in which it appears, shows forms more amorphous and less standardized than those of the burnished ware.

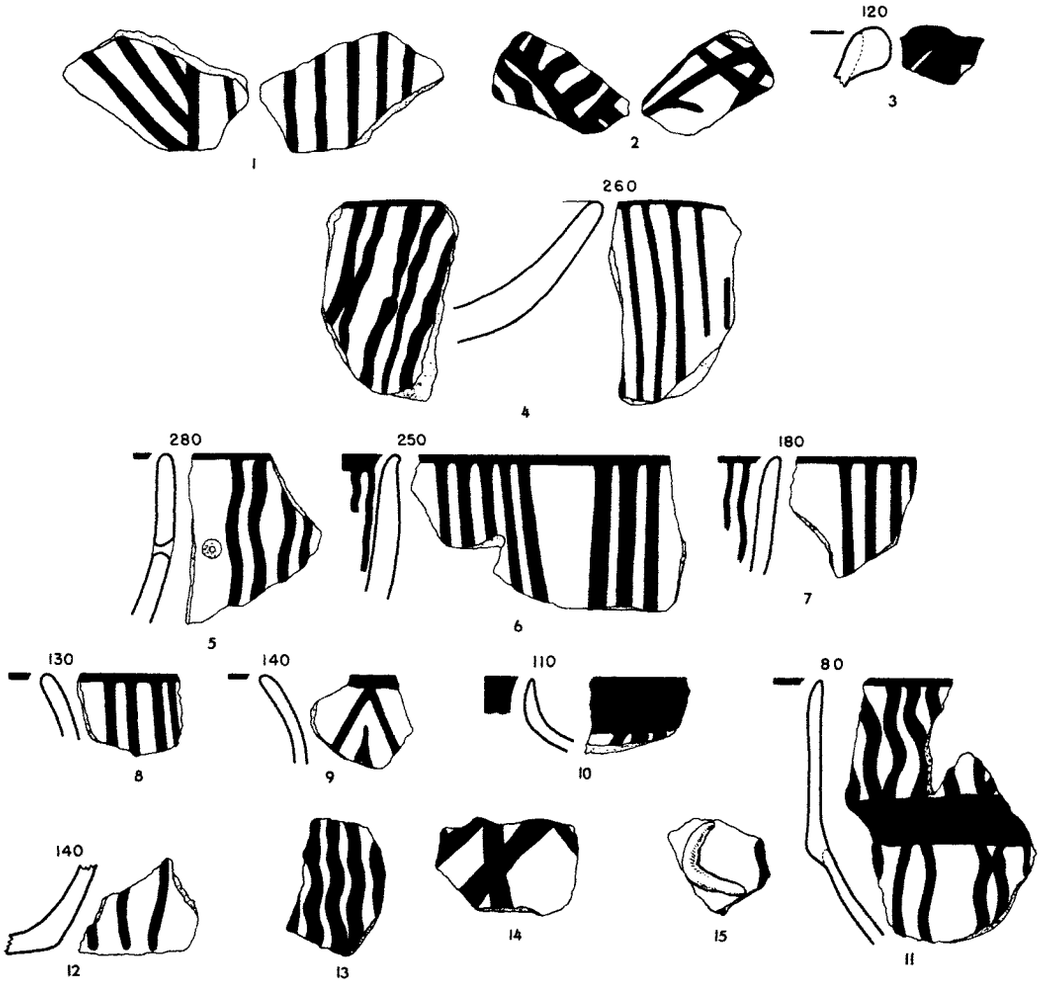

FIG. 55.—PHASE B. BRITTLE PAINTED WARE. SCALE, 1:3

Only two base sherds were found, both of the plain flattened type (Fig. 55:12). The only secondary features are a plain blob handle (Fig. 55:3) and a low crescent of applied clay (Fig. 55:15) which is probably decorative rather than functional. The sherd with the crescent cannot be oriented to its original position with certainty.

The painted motifs are usually simple, the great proportion being more or less straight (Pl. 80:2) or intentionally wavy vertical lines. There is some indication that these were applied in groups separated by voids (Fig. 55:6). A lip band invariably appears, and the shoulder band on a collared-jar sherd (Fig. 55:11) indicates a sense of simple tectonic arrangement. The base sherds show that the vertical lines were carried down to the base in at least some cases. More

complicated motifs are very rare; one jar sherd bears a composite chevron (Fig. 55:9), and some arrangement of intersecting lines is indicated, especially on the inside surfaces of two bowl sherds (Fig. 55:1–2). One jar sherd shows what seems to be open crosshatching (Fig. 55:14). The essential pattern of vertical lines and the usual brittle orange-buff clay result in a ware of perceptible uniformity. Without Matson's study, we would certainly have judged the ware to be a local one.

Lustrous Red-Film Ware

(0–5% of total selected sherd bulk)

The sherds are uniform enough to demonstrate a proper ceramic class, but they appeared in such small quantity that only a tentative gross analysis can be given. The vessels were handmade. The paste appears to be normally orange-brown buff in color but may vary from light orange-buff or olive-buff to dark gray-brown buff. The firing is light; complete oxidation

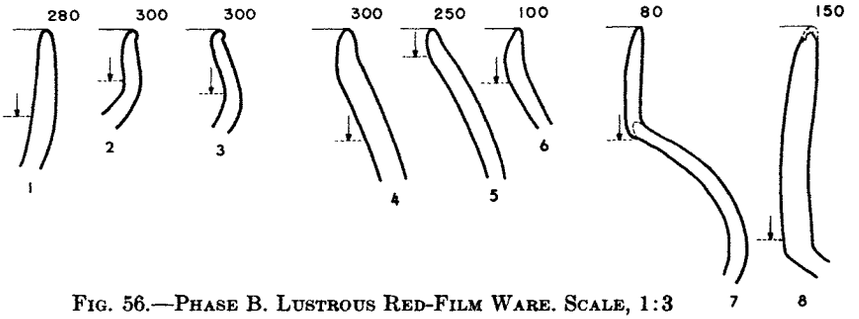

Fig. 56.—Phase B. Lustrous Red-Film Ware. Scale, 1:3

is rare, although normally the core remains only *ca.* 30% dark. The dark part tends to be near the inner surface, to such an extent that a coarse dark inner surface is one of the characteristic features of this ware. The mineral inclusions, medium to heavy in concentration, consist apparently of varicolored sand and pebbles, occasionally with either straw or shell temper as well. Considerable variety in the size of the grits is visible, even in a single sherd, but the great proportion is coarse. The paste has a granular friable appearance, and the fracture is rough and irregular. The surface is close to the paste in color but is usually covered with some sort of film. This film, which perhaps has a hematite base, tends to be fairly thick and quite dense. It is often possible to see a smeared effect caused by the fabric or bristles with which the film was applied, but at least half of the sherds noted appear to be slightly polished and have a slight luster (see Pl. 15:21–23). Since marks of a burnishing tool are not visible, the luster may be due either to flux in the film or to what is sometimes called "leather burnishing," or to both. The color of the film varies from light orange-brown buff to fire-blackened brown, but is normally deep red-orange (Pl. 80:8). Surface abrasion seems usual, and the dark inner surfaces, especially of the bowl sherds, are badly peeled and spalled. This effect is so general that it is impossible to say whether the entire inner surfaces of the bowls were covered with film; on jars the film was applied not much below the rim on the inside.

The sherds indicate forms essentially similar to those of the Dark-faced Burnished Ware: more or less straight-sided bowls (Fig. 56:1), hole-mouth jars (Fig. 56:4–6), and collared jars (Fig. 56:7–8). However, a new form is represented by bowls with slightly incurving rims (Fig. 56:2–3). The combination of a median body diameter greater than the rim diameter and what are evidently low open bowls is not indicated in any other ware in the two earliest phases, and the general tendency toward a slightly outrolled lip also is new. Although bowls of this new form are actually more numerous than the familiar more or less straight-sided bowls, the total number of sherds of this ware is too small to allow generalization about normal forms. Neither bases nor secondary features were found.

Miscellaneous Sherds[5]
(1–3% of total selected sherd bulk)

A few sherds are in clays which do not fall into any of the preceding classes. Since no new forms are represented, it is assumed that these sherds either imply local experiments with clay sources which were not continued in use or are fragments of odd pots which were brought from villages in other parts of the ʿAmuq or its environs where similar forms but other clay sources were in use. Except for the fact that most of these sherds are orange-buff in color, there is no uniformity. Some are red-slipped, some burnished, some very coarse, and some painted. One bowl sherd has impressions left by the butt end of a thin cylindrical tool applied obliquely (Fig. 57:5).

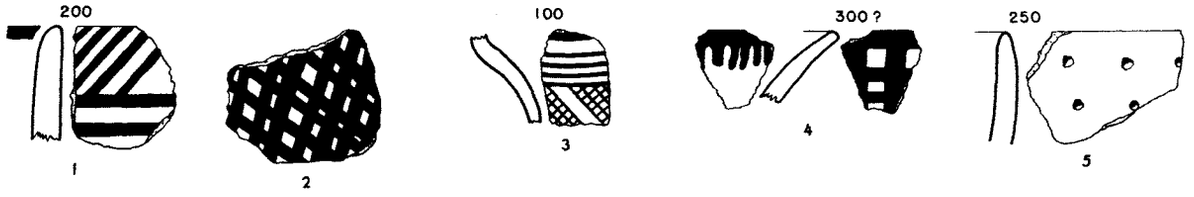

Fig. 57.—Phase B. Miscellaneous Sherds. Scale, 1:3

Six painted sherds are from the uppermost debris of the Phase B range and no doubt must be considered intrusive from the overlying First Mixed Range. Four of these sherds (e.g. Fig. 57:1–2) represent a nonbrittle painted ware known otherwise in the ʿAmuq only in the First Mixed Range (see p. 113 and Fig. 85). It is probably a terminal Phase B or early Phase C product. The fifth sherd (Fig. 57:3) is probably related to the Transitional Fine-Line Painted Ware of Phase D (see p. 165). The sixth sherd (Fig. 57:4) has the glazelike paint typical of Halaf pottery (see p. 114) and is from the rim of a jar with flared collar. It must refer to Phase C.

BAKED-CLAY OBJECTS

Seventeen small clay objects were found. These are mainly potsherds ground into more or less round disks and usually pierced at the center. Two spindle whorls are molded. Megascopically, both the potsherd disks and the molded objects appear to be of the Dark-faced Burnished Ware type of clay.

The objects for which utility may be assumed are mainly spindle whorls. Three of these are fairly round unpierced potsherd disks (d. *ca.* 28–58 mm.; Fig. 58:1). Six are pierced potsherd disks (d. *ca.* 30–60 mm.; Fig. 58:2–3, Pl. 48:1). The piercing, probably done with a flint borer, was begun from both sides (d. of finished holes *ca.* 6 mm.). Some fragmentary disks may have been broken in the process of boring. One of the molded whorls is quite flat (Fig. 58:9, Pl. 48:4), the other roughly biconoid (Fig. 58:8, Pl. 48:5). The holes indicate that these objects were probably molded on a stick or bone. The surfaces of both whorls are fairly well burnished.

One bead appeared (Fig. 58:10, Pl. 49:21). The clay is dark and rather fine-grained; the piercing seems to have been done from one side, and the diameter of the hole at its thinner end is only *ca.* 1 mm.

The remaining clay objects cannot be assigned a utility with any degree of certainty. A small round potsherd disk (Fig. 58:6, Pl. 49:10) and a larger potsherd disk (Fig. 58:7) each have an incised groove around the edge. There are two molded and burnished cylinders with

[5] In almost every sherd sorting of any bulk we encountered a few sherds which did not exhibit the characteristics of the standard wares of the phase. Some such sherds can be recognized as either intrusive or extrusive from other phases. Generally, however, such sherds (save in the mixed ranges) are completely unusual and represent such a small proportion of the total selected sherd bulk that they cannot be taken as representing standard wares.

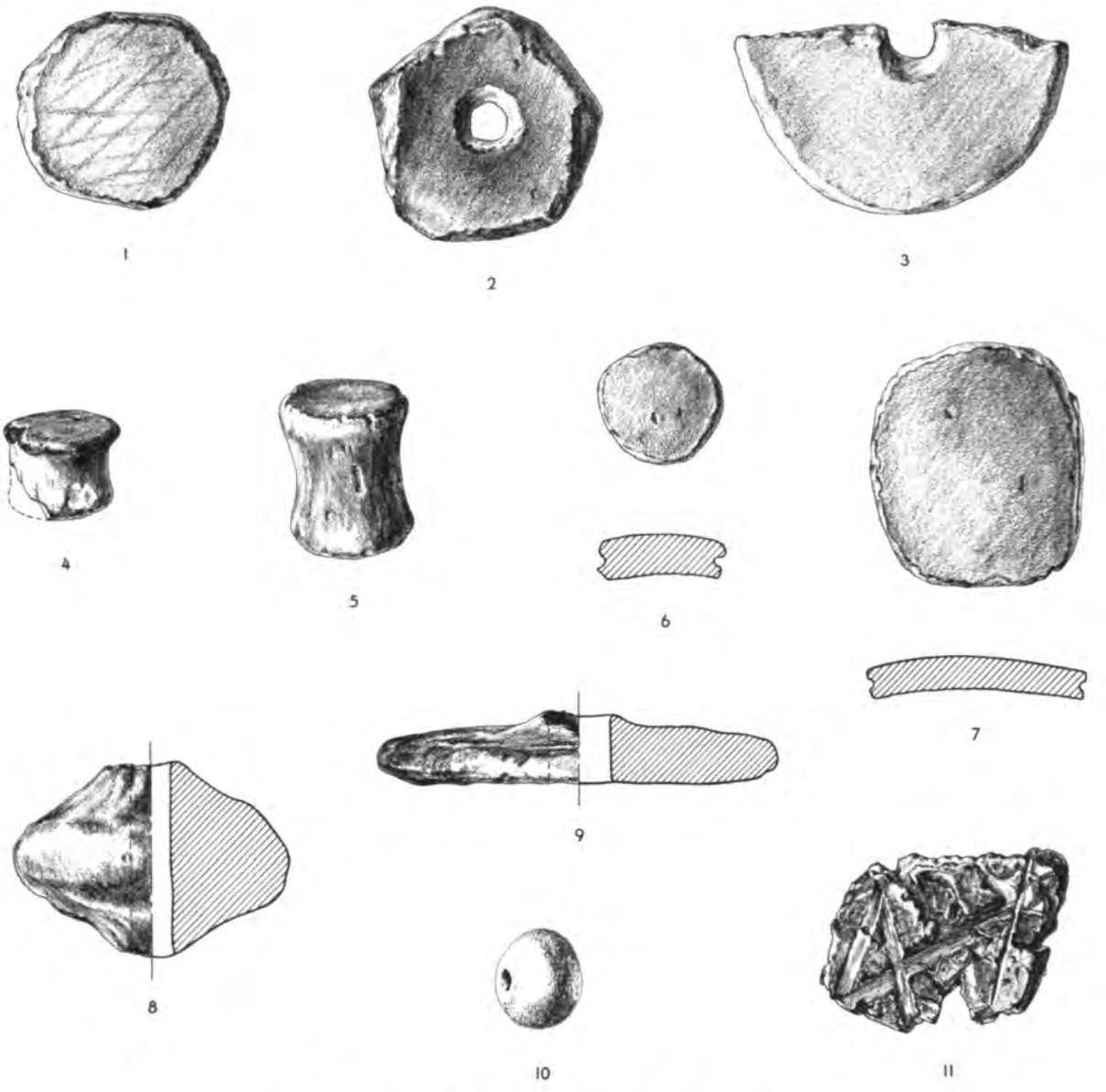

FIG. 58.—PHASE B. BAKED-CLAY OBJECTS. ACTUAL SIZE

concave sides (Fig. 58:4–5, Pl. 49:8), a type of object sometimes called a "nose plug." Finally, there is a small padlike fragment (gr. t. 12 mm.) of rough poorly baked clay which bears linear impression (Fig. 58:11, Pl. 49:12). It is not certain that the impression was made by a stamp seal.

METAL OBJECTS

There is no metal available from the Phase B operations. There is, however, an entry "worked stone with metal adhering (x4829)" in the field register. This object was not catalogued, nor did it reach Chicago.

FLAKED STONE OBJECTS

The flint and obsidian industry of Phase B (Fig. 59) is identical with that of Phase A (see pp. 46, 55, 525 ff.). The most characteristic tool types, as in Phase A, are finely retouched

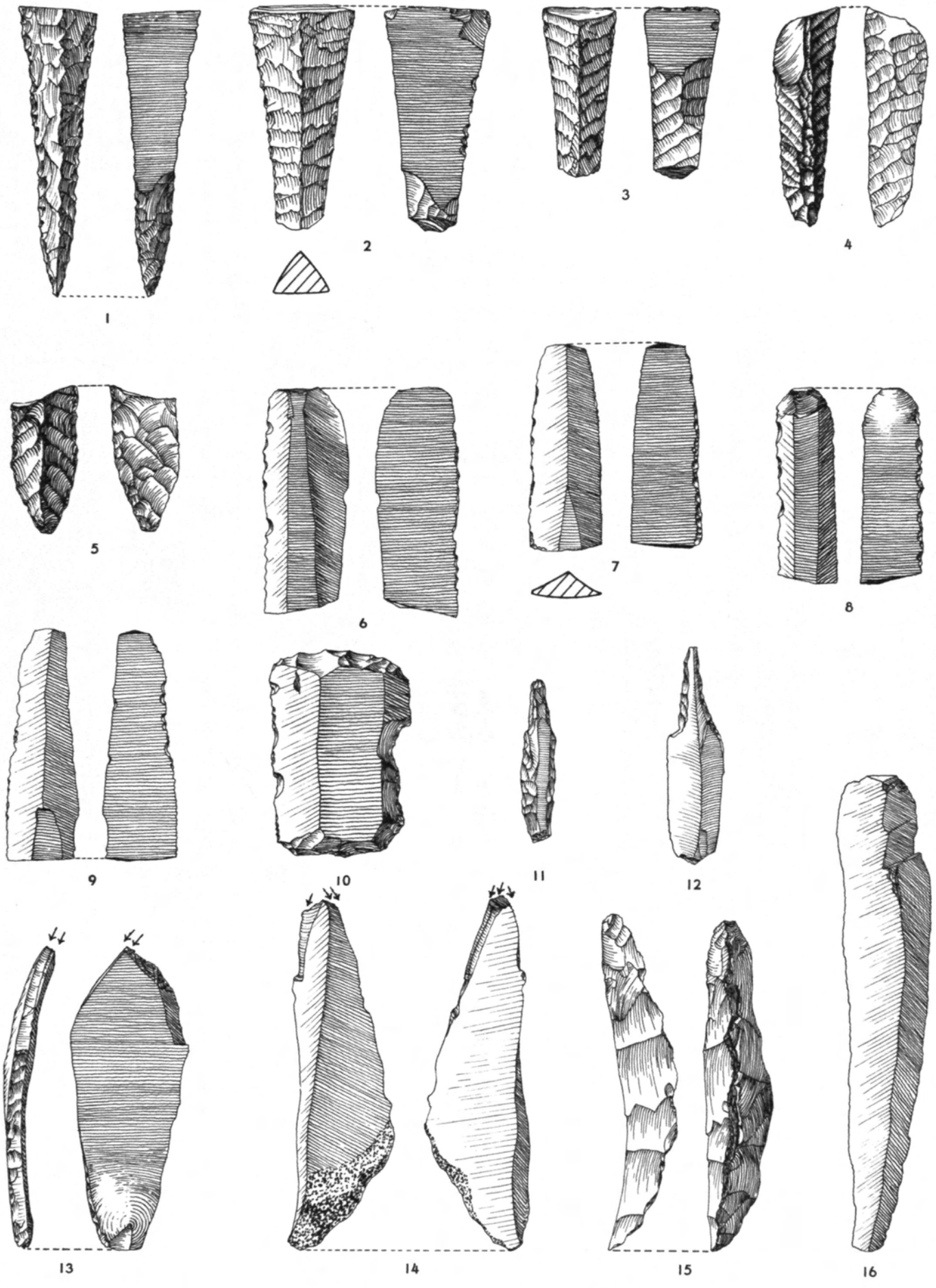

FIG. 59.—PHASE B. FLINT (*1–3, 6–16*) AND OBSIDIAN (*4–5*) TOOLS. ACTUAL SIZE

javelin heads with long tang expanded slightly at the lower end (Fig. 59:1, 4, 5), small slender sickle blades with finely denticulated working edge and no retouch on back or ends (Fig. 59:6–9), slender blades with tiny plain striking platform (Fig. 59:16), single-ended blade cores with blade scars covering only half of the surface (cf. Fig. 30:9). Figure 60 shows tools labeled as from JK 3:25, which cannot be specifically attributed to Phase A or Phase B (see p. 46). These include some of the best whole examples of the characteristic javelin head.

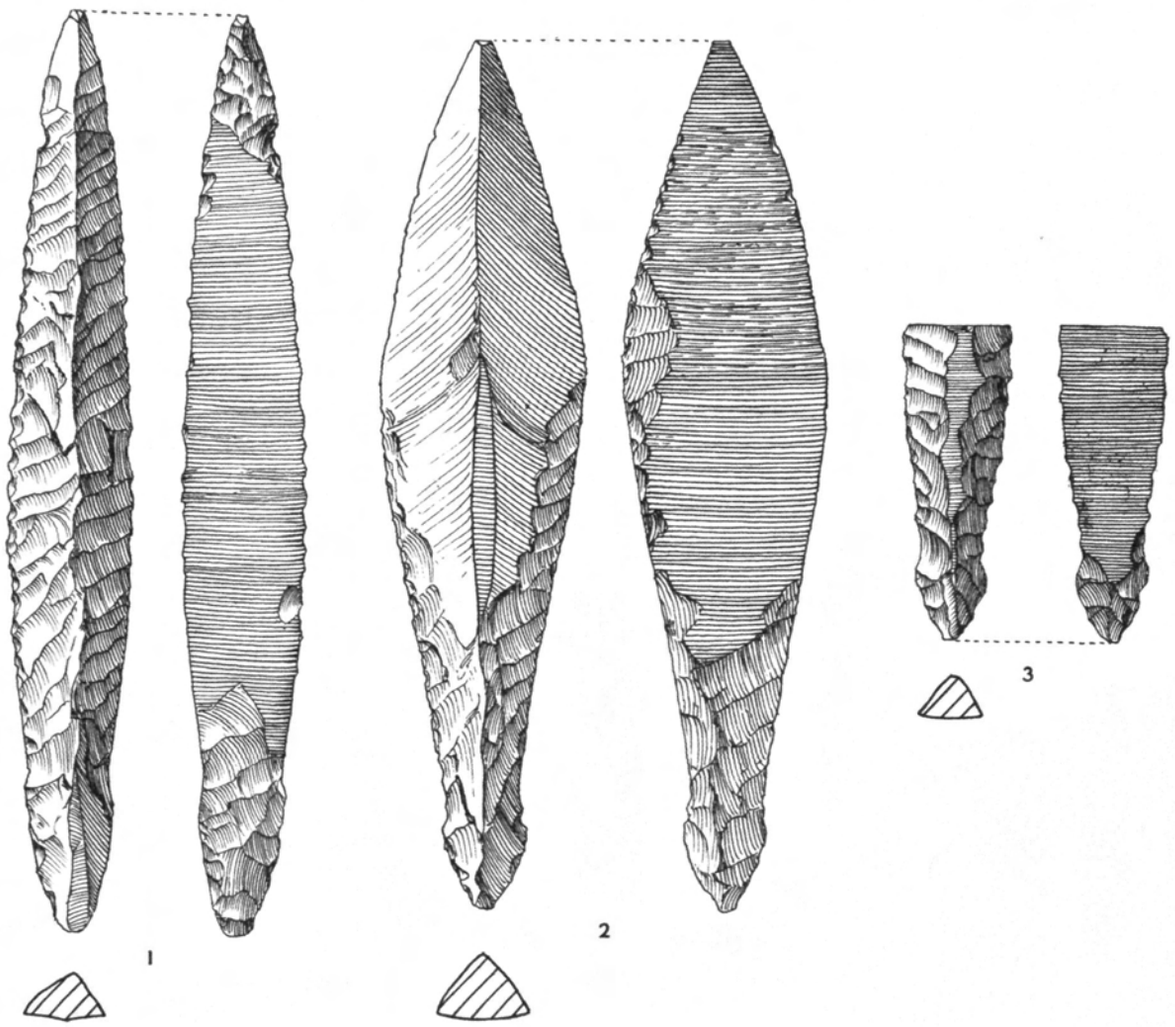

FIG. 60.—PHASE A OR B. FLINTS. ACTUAL SIZE

GROUND STONE OBJECTS

RUBBING(?) STONES

Such objects, so abundant in Phase A, are represented in Phase B by two disklike examples of limestone (Fig. 61). They are shaped by a combination of grinding and flaking. The upper and lower surfaces are ground and slightly polished from use. The circular outline is formed by rough flaking of the edges. In both examples the broader lower surface is slightly convex.

VESSELS

The six fragments are carefully shaped, smoothly ground, and have a small amount of polish. Only simple shapes are represented (Fig. 62). No. 1, which appears to be exactly half

of a subhemispherical vessel, has a counterpart in Phase A (see Fig. 32:1 and p. 57, esp. n. 10). It is so shallow and thick that it has the appearance of a small mortar. It also seems to have been reused for heavy pounding or scraping, for the edge of the flattened rim is badly chipped and battered. The outer surface and the rim are smoothly ground. The inner surface is ground, but not sufficiently to remove its pitted uneven appearance. No. 2 is from a small thick saucer-like vessel with plain rounded lip. No. 3 is a fragment of a small straight-sided cup, probably of truncated cone shape. The lip is rounded. The outer surface is ground away from a point slightly below the rim, and a narrow band at the rim is thus set in relief. No. 4 is a fairly large hole-mouth vessel with flattened lip. As in No. 3, a narrow raised band decorates the outer rim. No. 5 (Pl. 67:6) is a shallow basalt dish with straight side, flattened base, and rounded lip. No. 6 is a body fragment of a fairly large bowl with flattened base.

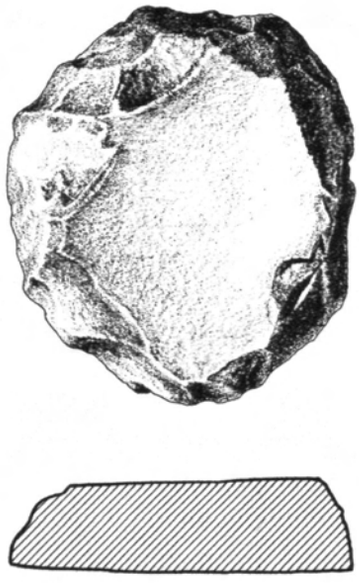

FIG. 61.—PHASE B. RUBBING(?) STONE (x5125). ACTUAL SIZE

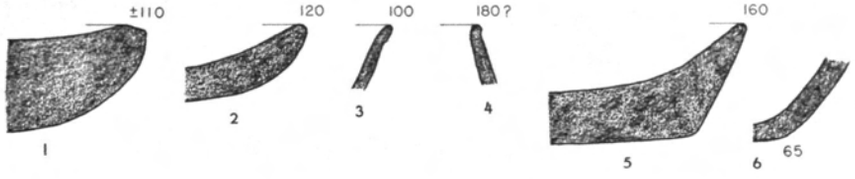

FIG. 62.—PHASE B. FRAGMENTARY STONE VESSELS. SCALE, 1:3

CELTS

The thirty-five[6] celts are all finished by grinding and polishing, and most of them are carefully shaped. A majority are made of diabase and amphibole rock (see pp. 94–96).

Five of the large examples are carefully shaped, and the sixth is made on a conveniently shaped pebble. All are slightly polished. At least five have axlike profiles (Fig. 63). The remaining tool (x4780) is broken, but it seems probable that it functioned as an adz. The average dimensions are: length, 81 mm. (since the butt ends are broken away in three examples, the actual average is greater); width, 49 mm.; thickness, 29 mm. Five are rectangular in trans-

[6] Not including an object which is not catalogued but is registered as a celt.

FIG. 63.—PHASE B. LARGE CELTS. SCALE, 1:2

verse section, and in one (Fig. 63:1, Pl. 68:16) all four sides are convex. Most of the examples are subrectangular in elevation. The butt ends of the complete tools are slightly tapered and are squared or rounded off; the ends are battered. The working edges are convex and in most cases well blunted by use. One example has sharply defined asymmetrical beveling at the working edge (Fig. 63:2, Pl. 68:15). One working edge is formed by well defined symmetrical beveling of both faces (Fig. 63:3). In the remainder there is clearly defined beveling on one face or no beveling at all (Fig. 63:1).

Fourteen neatly made medium-sized celts were found. Seven are axlike (Fig. 64:1–2), six are adzlike (Fig. 64:3–5), and one is a wedgelike chisel (Fig. 64:6). The axes and adzes average 62 × 31 × 17 mm. The axes are mainly rectangular in section and approach the rectangular in plan, with the butt end either squared or rounded off, but one (Fig. 64:1) is plano-convex in section and triangular in plan while another (Fig. 64:2) is somewhat rounded rectangular in section and triangular in plan. A few of the axes, all with straight working edge, have asymmetrical beveling of both faces (cf. Fig. 63:2). One example (x4933) has symmetrical beveling of both faces and is a smaller replica of a large axlike celt (see Fig. 63:3). Another has a symmetrical profile with no real beveling, the faces being tapered off to form a sharp working edge (Fig. 64:2). A ridge along one side is residual from the first step in the manufacture of the tool (see p. 61, n. 12). Finally, there is one ax which is beveled on only one face (Fig. 64:1). Its crude shape, in contrast to the other implements, suggests that it may have been a pebble which required but little grinding to be made into a useful tool. Its surfaces are polished. It is the only ʿAmuq celt that even remotely resembles the Aegean shoe-last type. The adzes are all rectangular in plan and transverse section. The butt ends are squared. The working edges are fairly sharp and tend to be slightly convex. Four have steep bevel on one face but no bevel on the under face (Fig. 64:5). One of these (Fig. 64:3) is a double-ended tool, the narrower end probably having served for chiseling. Two adzes have asymmetrically beveled faces, and one of these (Fig. 64:4, Pl. 69:16) has residual grooves lengthwise along one face and one side. The chisel (Fig. 64:6) has an irregular somewhat trapezoidal transverse section. The broad butt is rounded off and shows battering marks. The faces taper to form the working edge; a faint bevel of rounded outline is perceptible on one face. This implement does not show the careful workmanship found in the majority of the tools.

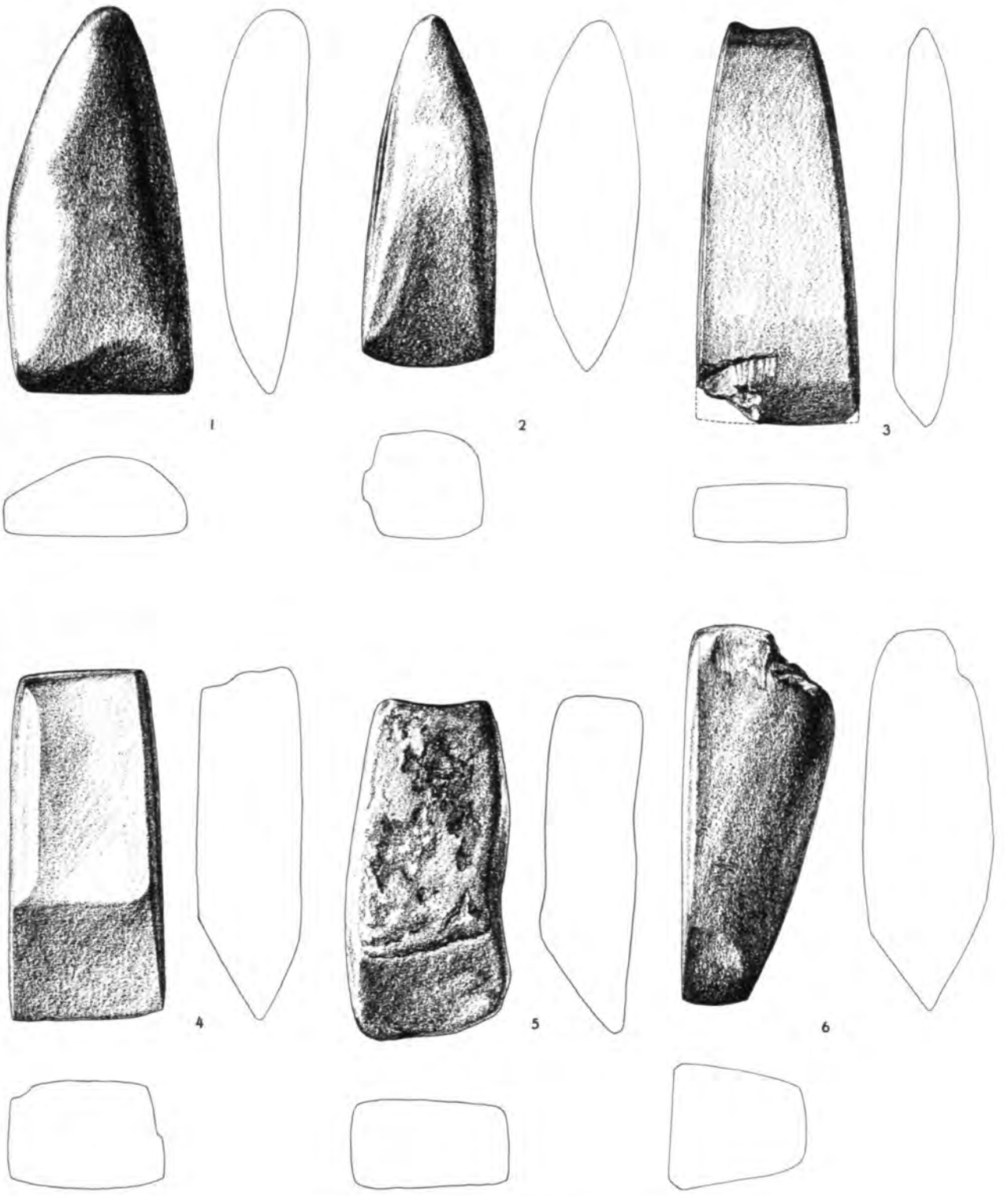

FIG. 64.—PHASE B. MEDIUM-SIZED CELTS. ACTUAL SIZE

The fifteen small celts are carefully shaped and tend to be more highly polished than the larger tools. All the working edges show signs of use. Seven of the tools are axlike (Fig. 65:1–2), and two are adzlike (Fig. 65:3–4). One (x4294*a*) is too fragmentary to be classified, and five are chisels (Fig. 65:5). The axes and adzes average 34 × 23 × 10 mm. The axes are all rectangular in section and approach the rectangular in plan. The butt ends are mainly squared; a few, however, are rounded. The working edges are straight and sharp. In three of the axes the faces are symmetrically beveled, and in one of these the beveling on each face is markedly oblique to the working edge (Fig. 65:1). In one ax (x4295) the faces are asymmetrically beveled. The three remaining axes have well defined bevel on one face, but the other face tapers to the working edge without any marked change of plane (see side elevation of Fig. 65:2). One of the adzes (Fig. 65:4) is more or less rectangular in section and plan and is asymmetrically beveled. The other (Fig. 65:3) is plano-convex in section and triangular in plan. Its lower face has an almost imperceptible bevel near the working edge; the main bevel, however, is on the upper face (illustrated). Both tools have sharp straight working edges. The chisels average 36 × 12 × 9 mm., the width being much less than that of the axes and adzes. The chisels are rectangular in section and plan. The butts are squared. Four tools are broken at the working edge. The only complete chisel and also the smallest (Fig. 65:5) has a sharp straight working edge. Its faces are asymmetrically beveled.

Pounders

There are two examples. The upper and lower ends of one (Fig. 65:6) are rounded and battered by use. All its broader surfaces are ground and polished. Its form and careful surface treatment suggest that it was originally a celt, later reused as a pounder. The other pounder, a rounded somewhat biconically shaped tool (Fig. 65:7), was probably made from a large pebble. The entire surface is battered except for two small smoothly ground areas flanking one of the tapered ends. These areas may indicate the places where the tool was grasped, for this seems to be the most convenient way of holding it. Or the smoothed areas may have been caused by additional use of the tool as a rubber.

Whorls

Seven perforated disks were probably used as whorls (Fig. 65:8–10, Pl. 69:4). The smallest is 35 mm. in diameter and 6 mm. thick, the largest 60 and 9 mm. The four smaller examples have perforations 6 mm. in diameter; the three larger examples have 8 mm. perforations. With one exception (Fig. 65:10), the perforations are double-bored. All the disks are approximately round in plan. The transverse section varies from somewhat rectangular (Fig. 65:8) to oval (Fig. 65:9) to lenticular (Fig. 65:10).

Macehead

The only possible example of a macehead (Fig. 65:11, Pl. 68:5) is of marble, carefully shaped and smoothly ground. Its oblate shape is unusual and differs markedly from the ʿAmuq maceheads of later phases (cf. Phase G maceheads). Its size, material, and carefully finished unblemished surface all suggest classification as a macehead.

Unclassified Objects

A portion of a presumably round platelike object has a slight rim set off from the base on the interior by a shallow groove (Fig. 66:1). The fragment seems to have been reused, perhaps as a tool sharpener, for the groove is broadened and deepened at one end. A similar deep broad groove appears on the bottom of the base at the opposite end of the fragment. The complete object was possibly used as a bowl lid. A smoothly ground grooved object (Fig. 66:2) presuma-

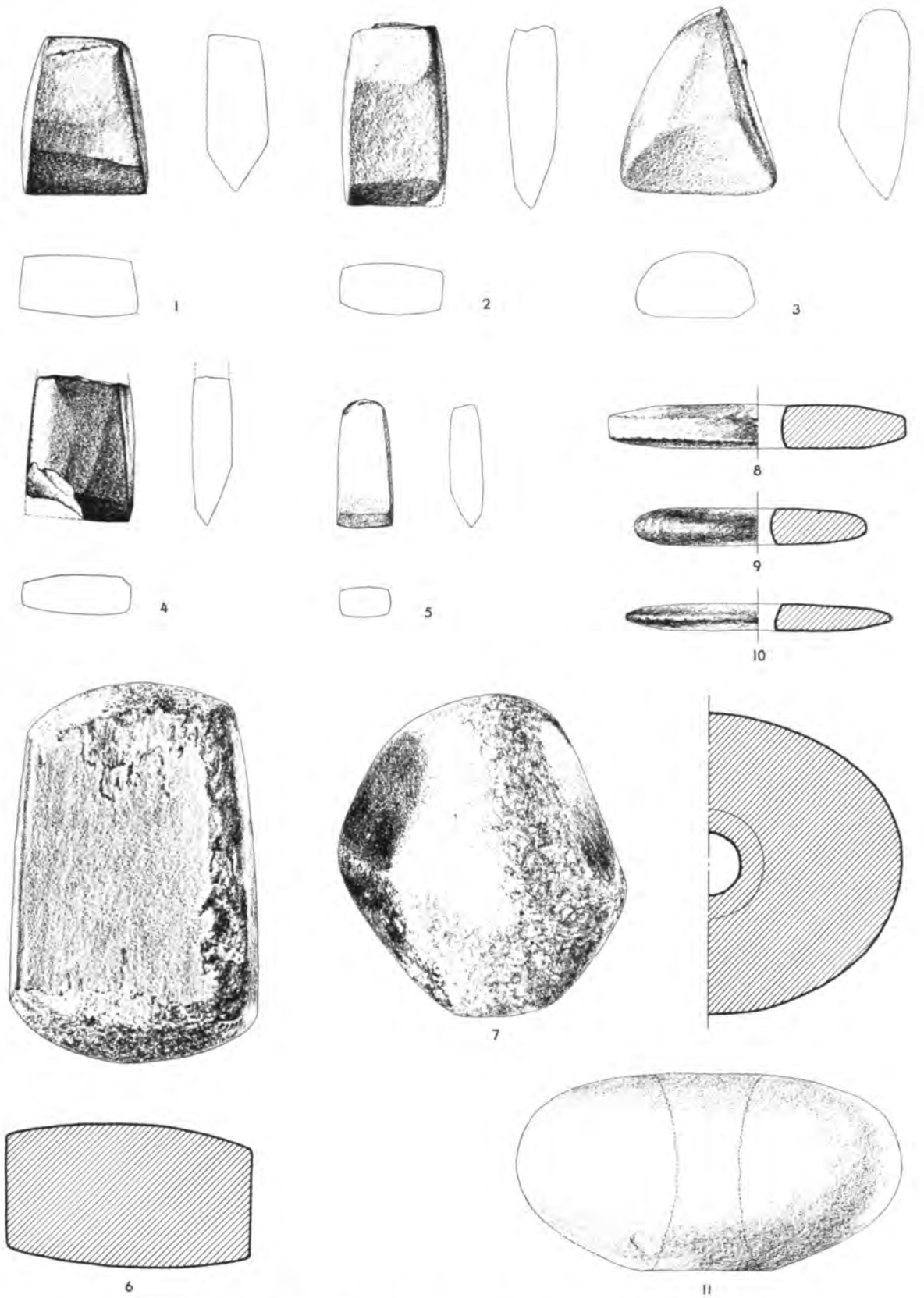

FIG. 65.—PHASE B. SMALL CELTS AND OTHER GROUND STONE OBJECTS. ACTUAL SIZE

bly represents a step in the manufacture of some stone tools. A mass of material was roughly blocked into shape by grinding and then grooved down the center preparatory to being split in two. To complete the process, each half would then be further worked into the desired tool. In the case of our object, the stone was broken before it could be split. Another smoothly ground object has a narrow groove three-fourths of the way around at the midpoint (Fig. 66:3). One surface (not shown) is badly chipped. The edges are squared. It seems likely that this is not a finished object but that it was grooved for the purpose of making two smaller objects (beads for example) and that the stone was damaged when an attempt was made to split it. A nail-like object (Fig. 66:4) may have functioned as a chisel point. The head is rounded off. The point is broken. The transverse section is more or less rectangular at the head but becomes round toward the point. Another fragment (Fig. 66:5) may be part of a "whetstone." A small more or less hemispherical pebble (x4891; d. 32 mm.) has smoothed areas on its flat lower surface. It was probably used for burnishing or polishing.

Some of the objects of this group have incised decoration. Two (Fig. 66:6–7, Pl. 67:11, 10) are apparently fragments of the same object. No. 6 (w. 56, t. 29 mm.) is rectangular in transverse and longitudinal section. When seen in plan, the longitudinal sides are splayed. It is impossible to say what the plan of the complete object was—whether trapezoidal, barreled, etc. The sides and bottom of the fragment are carefully smoothed by grinding and slightly polished. Only the upper surface is decorated. The incising (*ca.* 2 mm. deep) consists of two zones of contiguous diamonds. It is not known where the smaller fragment (No. 7) should be placed in relation to the larger fragment. It will be noted that its design zone is slightly broader and that triangles are used as filling between the diamonds. At one edge the triangles are suspended from the zone border, at the other (broken) edge they are joined by a horizontal band. An irregularly and roughly shaped fragment of chalk (Fig. 66:8) may be part of an object which was hemispherical in plan. Its flattened upper surface is incised with straight lines. Since the material is so soft, the incisions are probably to be regarded as "doodling" rather than as planned decoration. An object of unusual shape (Fig. 66:9) may be a portion of the butt end of a broken celt. Whatever the reason for its shape, the object must have had some function, for all its surfaces are smoothly ground and well polished. In addition, one face is decorated with incised straight lines, which are lightly scored but sufficiently deep to produce an impression in clay like that of a stamp seal.

Beads

There are eleven stone[7] beads. The perforations are mainly double-bored, but a few short beads have single-bored perforations. Four beads are round in transverse section: an oblate form (Fig. 67:1), a disklike bead (Fig. 67:2), an asymmetrical ringlike bead (Fig. 67:3), and a long cylindrical bead with convex ends (Fig. 67:4). A short bead with flattened ends (Fig. 67:5) is elliptical in section. Another is somewhat similar in general shape but has rounded ends (Fig. 67:6). A specimen with a thin lenticular section (Fig. 67:7) has an embryonic collar at each end of the perforation. Two long beads are roughly lenticular in section (Pl. 70:15 and Fig. 67:8). In the latter bead each end of the perforation terminates in a flared collar of oval transverse section. A handsome carefully made bead of unusual shape is plano-convex in section (Fig. 67:9, Pl. 70:14). A bead with three perforations (Fig. 67:10) was probably used as a spacer. The perforations are carelessly made in contrast to the smoothly polished surfaces of the bead. A groove along the straight edge (see section) shows that the object is a reused fragment of a larger bead; the groove is what remains of the original perforation.

[7] Not including an incomplete specimen of greenish stone (x4379), which is registered but not catalogued. See p. 99 for a shell bead and p. 83 for a clay bead.

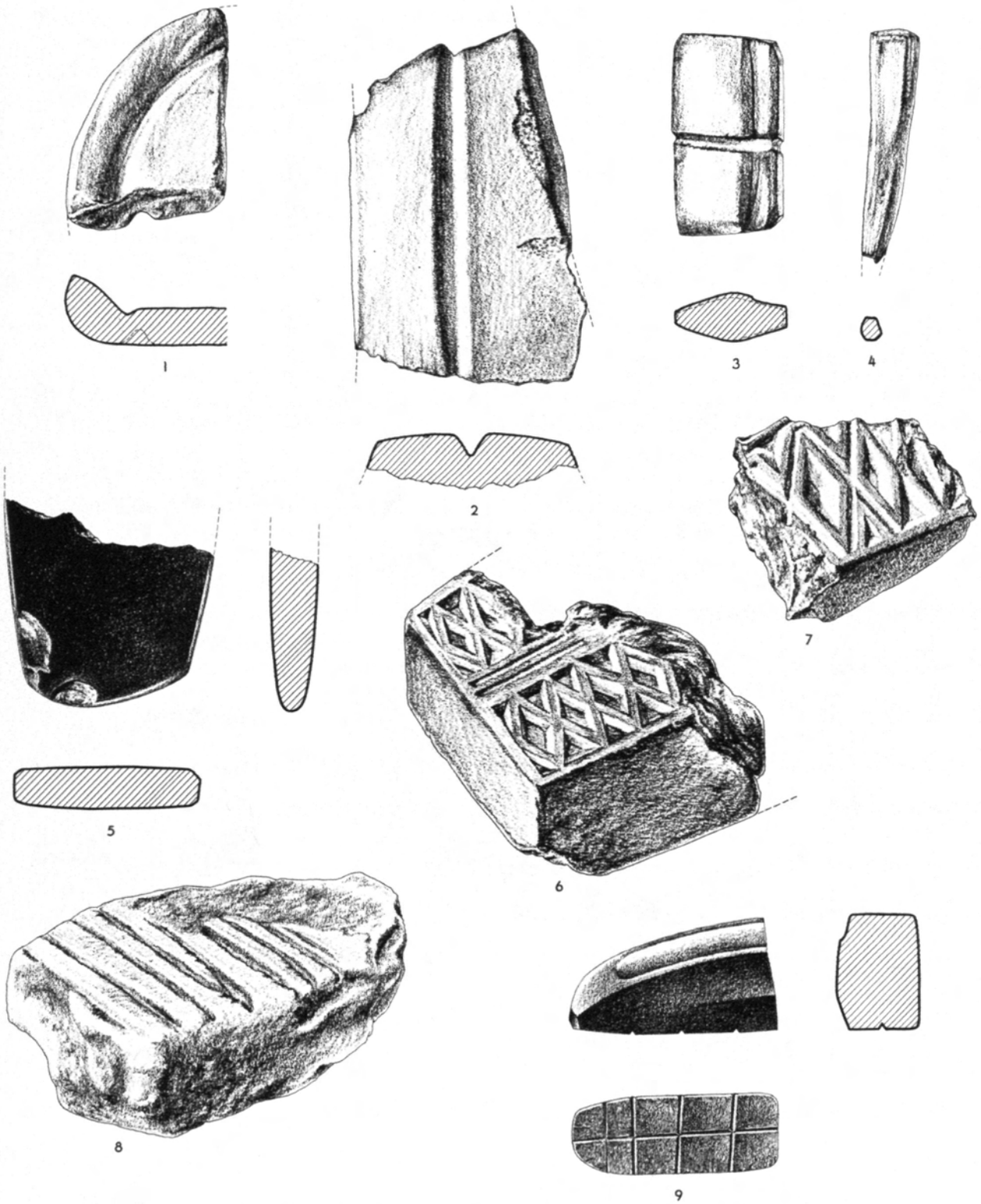

FIG. 66.—PHASE B. UNCLASSIFIED GROUND STONE OBJECTS. ACTUAL SIZE

Pendants

Three perforated objects (Fig. 67:11–13) seem more like pendants than beads.[8] They are made from pebbles which required little reshaping. No. 11 roughly approximates a triangular solid. The surfaces are smooth and polished but still retain some of the original pitting. In No. 12 the edges and decorated surface apparently are shaped by grinding. The lower surface is smooth but bumpy and is probably in its natural state. Lightly incised straight lines decorate the upper surface. It is impossible to say whether the animal-head shape of No. 13 (Pl. 70:12) is entirely natural. The ears seem to be part of the original surface of the pebble, for one ear is sharply defined whereas the other is amorphous. On the other hand, a slight ridge accenting the mouth and the symmetry of the head seem artificial.

Stamp Seals

Only two seals were found (Fig. 68). Neither one is identical in shape to any of those from Phase A context. No. 1 is a button seal with rectangular base. Its ridge handle was broken in antiquity (perhaps in the making), and the seal was subsequently perforated from the center of the upper surface obliquely to the base. The design consists of incised crosshatching. The raised rounded spot in the impression is caused by the perforation. No. 2 (see Pl. 71:22 for top view) is a beautifully made button seal. The perforated ridge handle rises smoothly out of the top. The base is slightly convex. The incised design was made with precision and is more complicated than the decoration of No. 1 or the stamp seals of Phase A.

"Studs"

The head of one "stud" (Fig. 69:1, Pl. 71:16) is rounded, and the sides of the shaft are slightly convex. The tip seems to be missing. In the other example (Fig. 69:2, Pl. 71:15) the head is defined by a rather sharp edge, and the shaft is cylindrical. Although it is incomplete, it seems likely that it was similar to No. 1 and that it had a blunt point.

Stone Identifications

RUBBING(?) STONES

x5125 brown-yellow limestone (Fig. 61)
x5158 limestone

VESSELS

x4827 beige limestone (Fig. 62:1)
x5073 porphyritic basalt containing felspar, diopside, titanite, apatite, and secondary calcite (Fig. 62:5, Pl. 67:6)
x5074 red marble (Fig. 62:2)
x5076 greenstone, almost monomineralic chloritic (Fig. 62:3)
x5077 greenstone, almost monomineralic chloritic (Fig. 62:6)
x5078 greenstone, almost monomineralic chloritic (Fig. 62:4)

LARGE CELTS

x4621 hornblende diabase (Fig. 63:3)
x4622 diabase (macroscopic)
x4775 weathered diabase (Fig. 63:1, Pl. 68:16)
x4776 magnesium-rich fibrous amphibole (Fig. 63:2, Pl. 68:15)
x4780 igneous rock of doleritic type but considerably altered with dev. of uralitic amphibole, blotched with darker inclusions
x4895 fine-grained diabase containing hornblende and plagioclase

[8] A possible additional pendant (x4686) is registered as "small fragment of worked black stone, pendant(?)."

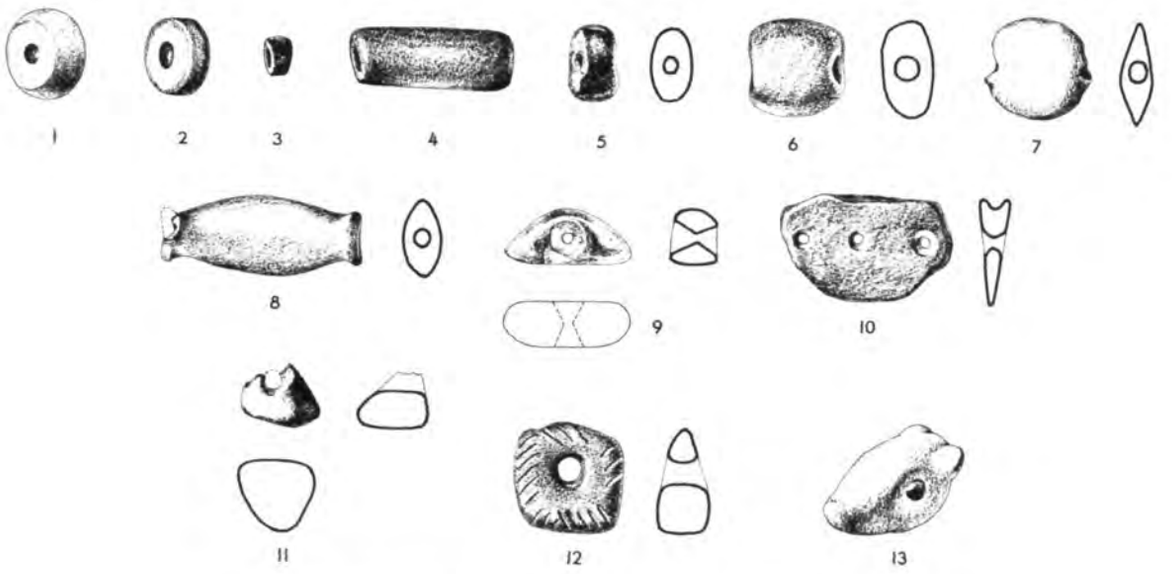

FIG. 67.—PHASE B. STONE BEADS AND PENDANTS. ACTUAL SIZE

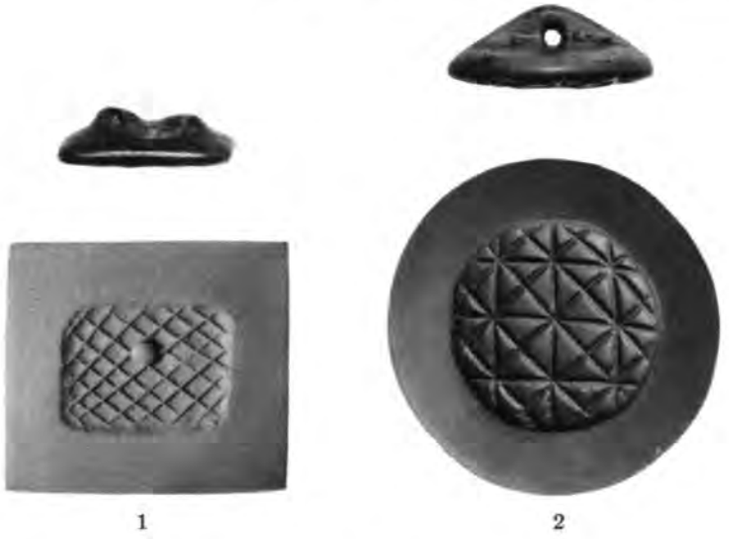

FIG. 68.—PHASE B. STONE STAMP SEALS. ACTUAL SIZE

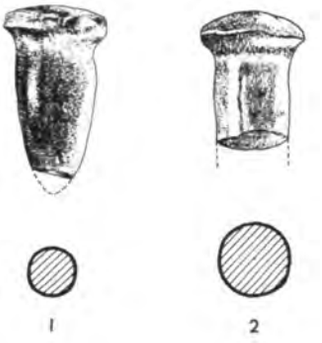

FIG. 69.—PHASE B. STONE "STUDS." ACTUAL SIZE

MEDIUM-SIZED CELTS

x4289*a* fine-grained diabase or dolerite (Fig. 64:1)
x4290*a* diabase (macroscopic) (Fig. 64:2)
x4386 anthophyllite rock with some calcite, $n_\alpha = 1.608$, extinction parallel
x4620 magnesium-rich fibrous amphibole, $n_\beta = 1.616$
x4623 hornblende diabase
x4624 finely laminated calcareous rock (Fig. 64:5)
x4684 pegmatite with plagioclase and hornblende and secondary chlorite
x4778 magnesium-rich amphibole and biotite (Fig. 64:3)
x4884 impure limestone
x4885 plagioclase, $Al_{90}An_{10}$ ($n_\alpha = 1.528$, $n_\alpha = 1.532$), somewhat altered (Fig. 64:4, Pl. 69:16)
x4893 fine-grained diabase (Fig. 64:6)
x4894 probably nephrite

x4931 dark gray impure limestone
x4933 probably fine-grained amphibole rock

SMALL CELTS

x4292*a* monomineralic rock (probably anthophyllite aggregate)
x4293*a* probably nephrite
x4294*a* hornblende, $n_\alpha = 1.624$, extinction 19°
x4295 heliotrope
x4296 fine-grained porphyritic rock
x4387 nephrite(?), partly altered to serpentine (Fig. 65:1)
x4607 unidentifiable without thin slide (Fig. 65:3)
x4619 altered monomineralic rock
x4777 magnesium-rich fibrous amphibole, $n_\alpha = 1.610$
x4779 fine-grained diabase or dolerite (Fig. 65:4)
x4781 magnesium-rich hornblende
x4887 magnesium-rich fibrous tremolitic amphibole, $n_\alpha = 1.616$
x4892 nephrite (Fig. 65:2)
x4929 magnesium-rich fibrous amphibole (Fig. 65:5)
x4930 nephrite

POUNDERS

x4932 fine-grained saussuritegabbro (felspar and epidote) (Fig. 65:6)
x5072 diabase (Fig. 65:7)

WHORLS

x4382 brown limestone
x4383 impure limestone (Pl. 69:4)
x4384 brown limestone
x4519 yellow-brown limestone (Fig. 65:9)
x4618 yellow-gray limestone (Fig. 65:8)
x4936 impure red limestone
x5088 talc-chlorite rock (Fig. 65:10)

MACEHEAD

x4681 marble (Fig. 65:11, Pl. 68:5)

UNCLASSIFIED OBJECTS

x4291*a* fine-grained saussuritegabbro (Fig. 66:2)
x4299 weathered greenstone, monomineralic chloritic (Fig. 66:6, Pl. 67:11)
x4370 probably low metamorphic schist (Fig. 66:4)
x4385 white limestone (Fig. 66:1)
x4606 weathered greenstone, monomineralic chloritic (Fig. 66:7, Pl. 67:10)
x4683 fine-grained chloritized rock (Fig. 66:3)
x4886 dolerite (Fig. 66:9)
x4891 aventurine-quartz, $n_\omega = 1.548$, $n_\epsilon = 1.538$, unaxial +, green in powder
x5075 chalk (Fig. 66:8)
x5127 fine-grained schist with small grains of pyrite (Fig. 66:5)

BEADS

x4287*a* greenstone, almost monomineralic chloritic, with some ore (Fig. 67:6)
x4366 fluorspar (Fig. 67:1)
x4508 soapstone (Fig. 67:8)
x4610 greenstone, almost monomineralic chloritic (Fig. 67:3)
x4611 greenstone, almost monomineralic chloritic, with some ore (Fig. 67:4)
x4612 soapstone containing talc and chlorite (Fig. 67:7)

x4613 quartz (Fig. 67:9, Pl. 70:14)
x4615 greenstone, almost monomineralic chloritic (Fig. 67:10)
x4889 greenstone, almost monomineralic chloritic (Fig. 67:2)
x4890 carnelian (Fig. 67:5)
x4928 in Antioch Museum; material (pale green translucent stone) not analyzed (Pl. 70:15)

PENDANTS

x4518 chlorite (Fig. 67:11)
x4614 greenstone, almost monomineralic chloritic (Fig. 67:13, Pl. 70:12)
x4616 soapstone (Fig. 67:12)

STAMP SEALS

x4672 kaolinite (Fig. 68:2)
x4673 weathered talc-chlorite rock (Fig. 68:1)

"STUDS"

x4609 calcite crystal (Fig. 69:2, Pl. 71:15)
x4826 calcite (Fig. 69:1, Pl. 71:16)

WORKED BONE OBJECTS

Of the thirty-six[9] objects of worked bone, those that have been identified come mainly from sheep or goats and gazelles.[10] As in Phase A, awls are most common.

Nineteen awls are made on metapodials (usually split lengthwise) with the articular surface serving as the head or butt end. The distal end of the bone is preferred. The longest of these awls is 100 mm., the shortest 49 mm., and the average length is 68 mm. Most of them are sharply pointed (Fig. 70:1), but a few are blunter (Fig. 70:2, Pl. 72:2). For the most part they are well made. The surface is ground along the inner edges of the shaft, but especially at the point. The point and the shaft are well polished from use. In one example (x4375) the metapodial is not split, and the tool retains most of the original articular surface; a short sharp point is worked at the other end of the tubular shaft. Another example (Pl. 72:5) shows much more work than usual; much of the articular surface (proximal end) is removed, and the end is squared off and polished.

There are two keenly pointed awls made on smaller more fragile bones (Pl. 72:8). Little has been done to these except for shaping the point.

There are two splinter awls—a rib fragment (Fig. 70:3) and a fragment of a cattle long bone (Pl. 72:16). In both cases the working is confined to the carefully ground point.

No. 4 in Figure 70 (made on small ulna?) has a long slender shaft, round to oval in section for the lower two-thirds, and is naturally flattened at the broken head end. The entire surface is smooth and well polished. There is a possibility that this object served as a pin rather than as an awl, though clearly recognizable pins do not appear until Phase F. Attention should be called to the fact that a bone needle head appeared in this phase (see n. 9).

Two large tool fragments of heavy shafted bone were found (e.g. Fig. 70:6, Pl. 73:3). Each is oval in cross section and has a well rounded end. They may be burnishers. There are two fragments of small well polished and carefully made tools. One is round in section (Fig. 70:5), the other (x4896) oval (gr. d. 9 mm.). These seem too thin to be parts of burnishers; it is also unlikely that they are pin shafts, for they are not tapered. Both have been exposed to

[9] Not including three items of bone which are not catalogued and are not in Chicago but are registered as follows: decorated fragment (x4604), incomplete blade end (x4678), incomplete needle head with eye (x4770).

[10] Mrs. Foss was able to make the following identifications: gazelle (x4373, x4509, x4512–13, x4674, x4825), sheep or goat (x4510, x4597, x4937, x5032), cattle (x4598).

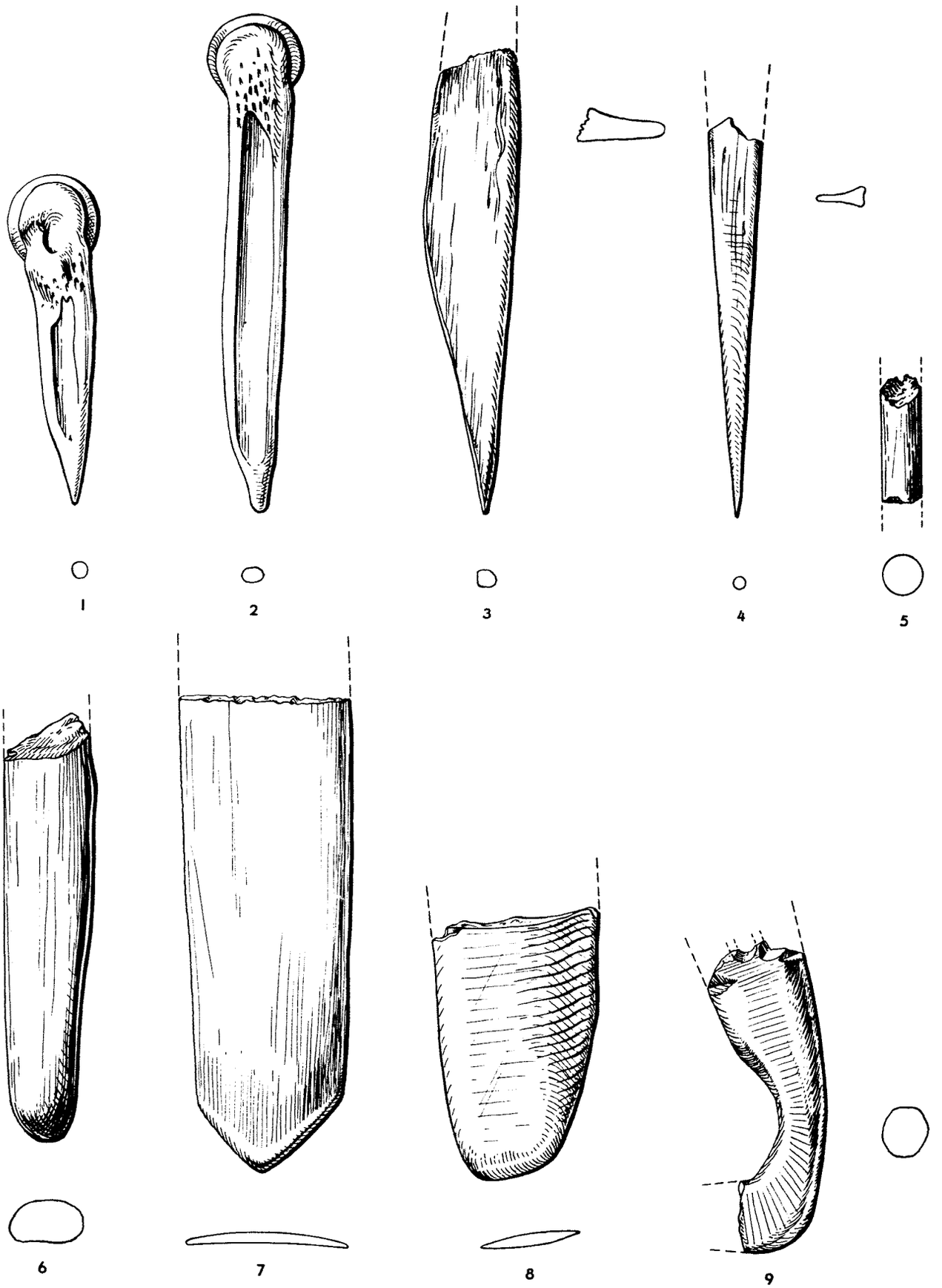

FIG. 70.—PHASE B. WORKED BONE OBJECTS. ACTUAL SIZE

fire. A large piece of bone (skull fragment of large animal) with sawing marks on the outer surface (x4602) seems to be an unfinished tool.

There are six bladelike fragments (made either on rib or on part of transverse process). A probable knife (Fig. 70:7) has thin sharp edges. The triangular end is blunt-edged but, like the rest of the surface, is highly polished from use. Another fragment (Pl. 75:10) has one sharp edge. The other edge is broken off. The blade ends in a sharp curved-over point similar to that of a modern paring knife. Another blade fragment (both ends missing) has thin sharp edges (x4927). The spatulate working edge of another fragment (Fig. 70:8) is thin and sharp. Two other blade fragments (e.g. Pl. 75:6) may have belonged to a spatulate type of tool. In each case one surface is smooth and polished, with beveled rounded-off end; the other original surface has split off.

Finally, there is a fragment (worked over curved part of ulna) which may represent a handle with a groove at the top to hold a knife blade or tool (Fig. 70:9, Pl. 76:5). Or the groove may be part of an original perforation, in which case it is hard to conceive how the object was used. The section is more or less round at the narrowest portion but flattens out to an oval at each end. Both ends are broken off; since the lower break shows polish, the object must have been used after this end was broken. The upper portion, where still intact, has a few short incised shallow grooves, mainly on the curved outer edge. These were probably purely decorative.

SHELL BEAD

Phase B yielded one bead of shell (Pl. 78:2). It is a small neatly made ring with large perforation and smoothly ground surfaces.

BURIAL

The open burial of a child about $3\frac{1}{2}$ years old (x S 21) was encountered some 40 cm. above floor 24 in JK 3 (see Fig. 39 and Pl. 79 *F*). The body was abruptly flexed on the left side; the sacrum-to-atlas direction was *ca.* 45° west of north. The head was tilted downward. The right forearm and hand were disturbed in excavation; the left arm was folded with the hand under the chin. The skull was sent to Chicago but was too fragmentary for restoration; no physical data are available. A small Dark-faced Burnished Ware jar with relatively low collar (Fig. 45:2) had been placed in front of the face.

NONARTIFACTUAL MATERIALS

Mollusca

Arca (*Arca*) *diluvii* LAMARCK, a marine, Mediterranean, form (x4934).

Vertebrata

Wild: deer; part of the material suggests the red deer, *Cervus elaphus*, and part the fallow deer, *Dama dama* (or perhaps *mesopotamica*).

Domestic: pig; sheep (or goat); ox, *primigenius* type.

Homo sapiens: x S 21, too fragmentary for study (see above).

IV

THE FIRST MIXED RANGE

INTRODUCTION

THE materials of the First Mixed Range come from a 1.8 m. thick deposit in an area of 110.0 sq. m., within the JK 3 cut on Judaidah, and are the yield of two floors and the intervening layer of debris (JK 3:23 fl.–22 fl.). The best indication of the marked inconsistency of these materials was in the sherd samplings, within which wares recognized from the stratigraphically fixed contexts of JK 3 or from the exposures on Kurdu included those of Phases B, C, D, E, and F. The stratigraphy, on the other hand, was not markedly confused, and we can account for the combination of apparent stratigraphic regularity and inconsistent material yield on theoretical grounds only.

We have indicated that we were already aware of difficulties in this range even before Kurdu was excavated.[1] Reference to the section on the ceramic content of the First Mixed Range will show the variety of wares which appeared. The Phase F pottery from this range is treated in the chapter on Phase F; the approximate proportions of Phase F wares which occurred in the total selected sherd bulk of the First Mixed Range are as follows:

Floor 23	7–12%
Floor 23 debris	16–21%
Floor 22	51–56%

Since the debris above floor 22 also was mixed, there was some question as to whether its yield should be included in the First Mixed Range. However, we decided it would be best to include it with Phase F, since 66–71% of the sherds represent Phase F wares.

Our original attempt to explain the ceramic inconsistency of the First Mixed Range is inadequate (see n. 1). It does not explain the contamination with Phase F wares under the intact floor 22, and especially it does not explain how burials x S 18–20, with *Beigaben* which are on typological grounds unlikely to be later than an early stage of Phase C, could have been let down from floor 22 with its 51–56% contamination of Phase F wares. A better theory came out of a discussion with our colleague Mr. Delougaz. If the theory offered is not the right one,

[1] Our preliminary statements in *AJA* XLI 10–11 and *Survey*, pp. 6–7, both indicated uncertainty. In the *Survey* the range was treated as a kind of interlude between Judaidah Periods XIII and XIV and was labeled " 'Provincial' and 'true' Tell al-Halaf"; the "distinctive criteria" were noted as follows:

"In the lower debris of Period XIII [now Phase F] appeared painted wares in the Tell al-Halaf tradition, but obviously of local fabrication, and underneath these (in fact, even from the highest floor of Period XIV [i.e., floor 23]) a few small and badly worn true Tell al-Halaf and Samarra? sherds. Both the local and the imported wares were unassignable to any regular architectural levels. It would seem that these sherds had been scattered from a village located nearer the center of the mound and hence not intercepted by our operations. It is very probable that there was a full period between Periods XIII and XIV; but, since we do not yet have true floors of the period, it is considered here as a subdivision of Period XIII."

It will now be apparent that our 1938 season's work at Kurdu showed that not one phase but three full phases must be intercalated between the old Judaidah Periods XIII and XIV. We admit freely that our notion in 1937 of what constituted Halaf and Samarran painted styles was a very primitive one. We are now very uncertain whether more than one or two of our sherds deserve to be labeled "Samarran" (see p. 116), and there are certainly in the First Mixed Range sherds of Phases D and E types which we did not recognize at all in 1937; we were at least right in recognizing both locally produced and imported Halaf wares.

it will at least help to explain the complexity of what we found. It is based on several suppositions:

1. That the architecture of floor 23 is of a late stage of Phase B or an early stage of Phase C.

2. That in late Phase B or early Phase C times there was a continuing accumulation of debris and architecture and that at least one floor existed which was no longer extant at the time of excavation and from which burials x S 18–20 were let down (see shaded area and hypothetical floor in Fig. 71).

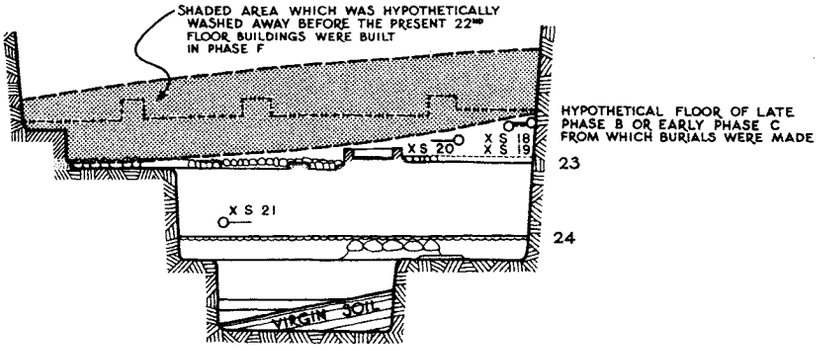

FIG. 71.—FIRST MIXED RANGE. SECTION OF JUDAIDAH JK 3:24–23 AND HYPOTHETICAL FLOOR ABOVE. SCALE, 1:200

3. That, after the hypothetical floor went out of use, there was a period of denudation of the mound at this point, down almost to the level of the burials found in the debris above floor 23 (i.e., down to the base of the shaded area in Fig. 71). There was time for such a phenomenon to take place (between Phase C and Phase F) as well as a reason, for the JK 3 area is near a creek and probably bore much traffic. The sherds of later Phase C, Phase D, and Phase E types supposedly were scattered into the area during its period of denudation, probably from dwellings of those phases which were located closer to the center of the mound.

4. That floor 22 and its architecture represent the first (Phase F) occupation in the JK 3 area after the period of denudation.

This theory at least explains the main facts involved. Large and not-much-worn sherds of Phase F types found below floor 22 could have been scattered there just before or during the time that floor 22 and its architecture were being built. The pottery of Phases C, D, and E types—both the painted varieties and the Kurdu type of Dark-faced Burnished Ware (see p. 110)—would have been broken and become worn as a result of traffic over the area. The burials would have been let down from the hypothetical late Phase B or early Phase C floor. The larger and not badly eroded sherds of Phases B–C types from floor 23 and the debris immediately above it and some ten complete or reconstructible Dark-faced Burnished Ware pots from the same context would be considered *in situ;* the architecture of floor 23 also would be considered as of late Phase B or early Phase C.

Since there are no relatively large and unworn sherds of Halaf type (either local imitations or imports) from the First Mixed Range and since the arbitrary definition of the beginning of Phase C is taken to be that point when Halaf influence first reached the ʿAmuq, one might tend to consider both floor 23 and the burials found above it as of late Phase B. Against this suggestion are the fact that the sampling is too small to make negative evidence in any way binding and the fact that the proportion of Halaf material which reached the ʿAmuq was apparently always limited. Moreover, the profile of a Dark-faced Burnished Ware bowl (Fig. 80:3) found in the lower debris of floor 23 is that of the Halaf type "cream bowl" and seems not to be part of the indigenous Dark-faced Burnished Ware profile series.[2] It would seem

[2] A few body sherds with rather sharp change of plane (which could conceivably belong to a form somewhat like the "cream bowl") appeared in Phase B (Fig. 48:4).

best, in the present state of our knowledge, to be no more specific in the classification of floor 23 and its lower debris than to call them late Phase B or early Phase C.

Strangely enough, the flints with relatively few exceptions seem to form a more or less coherent whole differing sharply from the industries of the earlier (Phases A–B) and later (Phases F–J) levels. Thus Mrs. Payne, writing before our results on Kurdu were available, grouped the flints of the First Mixed Range as a separate industry, primarily on the evidence furnished by the sickle blades (see pp. 530 ff.).

On re-examining the First Mixed Range flints in the light of the evidence from Kurdu, which produced the materials of Phases C, D, and E, one is still surprised at the consistency of the sickle blades. We may be relying too heavily on the sparse materials at hand, but comparison of these materials suggests very strongly that the bulk of the First Mixed Range sickle blades belong to a Phase C flint industry, perhaps even earlier than that of the Phase C flints described in this volume.

ARCHITECTURE

In the strict sense in which the First Mixed Range is defined, no architecture should be described. Dependent, however, on the theory offered as to how the stratigraphic irregularities of this range came about (see above), we may conveniently describe floor 23, which according to that theory pertains to either late Phase B or early Phase C. Regardless of the quantity of later sherds on or immediately above this floor, the presence of the three undisturbed burials x S 18–20 (with *Beigaben* which typologically are unlikely to be later than early Phase C) above it seems to assure a relatively early date.

If we assume the acceptability of our theory, the floor 23 exposure would indicate the presence of small (most probably domestic) structures in late Phase B or early Phase C. The unit plan concept was rectangular, although there were some small circular accessory features.

Floor 23 was a somewhat concentrated layer of debris and charcoal flecks at *ca.* 130 m. elevation,[3] easily perceptible over most of the area. It did not seem to have been purposely packed. Associated with the floor, and let down flush with its level, was a complex of stone foundations for small-roomed rectangular structures (Fig. 72 and Pl. 7 *B*). These were not sufficiently intact to suggest much of the original plan; the orientation was oblique (N.NW.–S.SE.) but more or less consistent. Another set of stones, at the west end of the exposure (and only partially uncovered at the base of a shovel step), indicated an acute corner for a set of walls of which one element ran east-west. These, apparently, had nothing to do with the obliquely oriented foundations.

Three small circular or nearly circular structures of uncertain use were associated with the central complex. The largest of these, in the northeastern portion of the exposure, was stone-founded, with traces of *tauf* walling above part of the stone circle. It was floored inside with a sort of marlaceous substance (limestone bits, pebbles, and clay), which may have been fire-hardened. The second circle, due south of the first, had the remains of *tauf* walling, save to the south, where its own marlaceous floor opened to the outside. It is, however, possible that this opening was an accidental break in the original wall, for the *tauf* walling itself rested on the floor circle. Just west of this second circle was the third feature, a U-shaped depression with the same type of marlaceous flooring and a short apron of sloping floor below the opening.[4] There were small clusters of stones at two points on the flanks of the feature (see Fig. 72 and Pl. 7 *B*), but it was not certain whether these actually pertained to it. No *tauf* walling was

[3] In Pl. 7 *B* the floor itself has been removed; in the section (Fig. 72) the floor is indicated by a light broken line at the level of the top of the stone foundations. The heavy line below it indicates the level to which this complex was dug.

[4] In Pl. 7 *B* the architect stands with one foot on the floor of this feature; the apron is visible in the depression below the U-shaped floor.

associated with them. All three features appeared to be part of the architectural complex of floor 23. They were not, so far as we could observe, let down from floor 22. The supposition would then be that the first and probably the second feature (if its opening was an accidental break) were surface storage structures—presumably silos. The third feature, on the other hand, must have been some sort of hearth or oven.

In the southeast corner of the exposure, a short segment of another stone-founded circular structure appeared.[5] Its diameter was larger than that of the first feature noted above; it was not floored with marlaceous material, nor did traces of *tauf* walling remain above the stones.

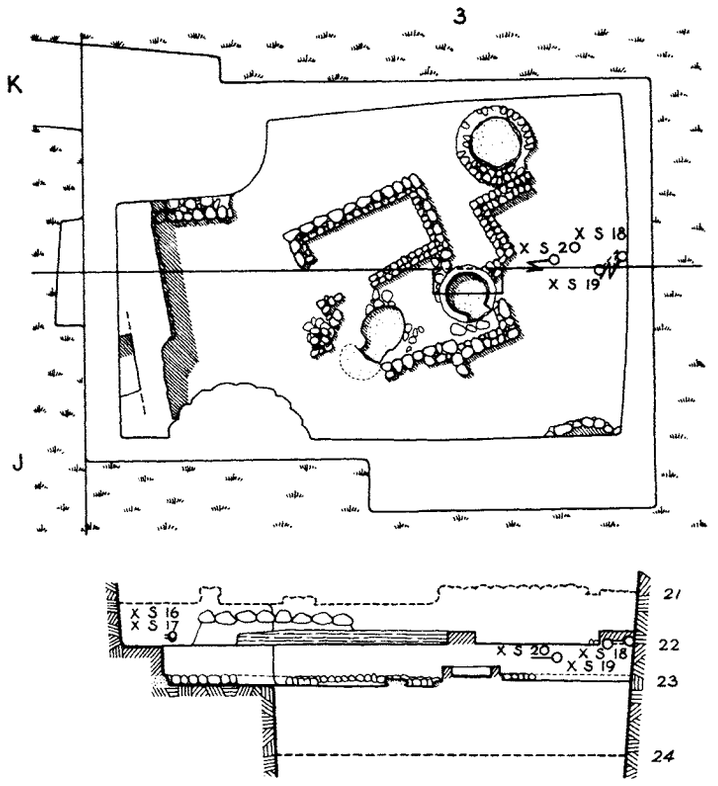

FIG. 72.—FIRST MIXED RANGE. PLAN OF JUDAIDAH JK 3:23 AND SECTION OF JK 3:23–22. SCALE, 1:200

As regards floor 23 generally, it might be noted that while it was some 2 m. above ground water (in the late spring of 1936), the dirt was already becoming damp, and it was very difficult to clear mud walls. Hence there was no evidence whether the rectangular building units were of *libn* or of *tauf*.

Although the material reclaimed from floor 22 is included in the First Mixed Range, it seems most likely that the architecture was constructed in Phase F times (see p. 226).

POTTERY

It was because of the great variety of wares in the field sortings from the First Mixed Range that we first suspected all was not well in this range. The typological similarities between various of these wares and those of the three successive phases (C, D, E) on Kurdu clinched the

[5] On the south wall of the cut, near the west corner, the line defining the effective face of the excavation bows out in a semicircle. This delimits the outermost edge of the northern half of a stone-lined well which was dug down from floor 13 (see p. 262). In the operations of each succeeding level, this feature was cleared as a unit, and the sherds it yielded were separately controlled.

matter. Whatever may have been the actual cause for the unconformity in JK 3 (see above), the ceramic evidence indicates that some parts of the mound must have been occupied throughout the whole range of time from Phase B to Phase F. The demonstration of this proposition must, however, remain on a typological plane until a larger area is exposed in the deeper ranges of Judaidah.

The First Mixed Range pottery was prepared for publication in the following manner:

1. The Phase F sherd content was removed from the field sample and is treated with the Phase F pottery. It was possible to do this on typological grounds, since uncontaminated Phase F sortings are known from Judaidah JK 3:21 fl. and the W 16 operation on Chatal Hüyük. Typological confusion was possible only in the case of the simple wares; it was not certain whether chaff-tempered simple sherds with plain rims and similar body sherds represented the old Phases A–B Coarse Simple Ware or the Phase F Chaff-faced Simple Ware. All questionable examples were therefore discarded.

2. Pottery of what is certainly a middle or a late manifestation of Phase C was found uncontaminated on Kurdu and served as a control for isolating and classifying some of the sherds from the First Mixed Range. In the same way, certain sherds from the First Mixed Range are considered tentatively as belonging to Phases D and E on the basis of the known content of those phases on Kurdu and are so classified (with some reservations).

3. Halaf sherds, noted in the First Mixed Range even before Kurdu was excavated, are the ceramic type fossil for marking the commencement of Phase C in the ʿAmuq. Some Halaf sherds from the First Mixed Range, and even copies in local clays, may refer to an earlier time within Phase C than do the Halaf sherds present in the Phase C strata on Kurdu. Because of the stratigraphic difficulties in the First Mixed Range, however, this question must remain unanswered.

4. The remaining sherds fell, almost without exception, into groups already established for Phase B. Whether they should be considered late Phase B or early Phase C can be resolved only by further excavation. A few new features and a few apparent technological developments indicated by these sherds are not accounted for in the available Phase B material from Judaidah. However, we are not inclined, on present evidence, to attempt to assign them to a range any more specific than that from the end of Phase B to the middle of Phase C.

5. For the sake of convenience in classification we have added to the illustrations of the First Mixed Range pottery a few sherds from higher floors in JK 3. They are unmistakable examples of painted wares seen otherwise at Kurdu, though not with the same motifs. They were out of context, but the floors on which they were found are noted on the text figures.

The First Mixed Range pottery discussed in this chapter is described on the basis of *ca.* 955 sherds. There are also ten complete or reconstructible pots of Dark-faced Burnished Ware. The proportions of the various wares in the total selected field sorting, which includes the Phase F sherds (*ca.* 325), are approximately as follows:

1. Coarse Simple Ware (A–B type)	0–4%
2. Coarse Red-slipped Ware (B type)	0–4%
3. Coarse Incised or Impressed Ware (B type)	0–4%
4. Dark-faced Burnished Ware (mostly A–B type)	42–47%
5. Dark-faced Unburnished Ware (B–C type)	7–12%
6. Washed Impressed Ware (A–B type)	1–3%
7. Brittle Painted Ware (B type)	0–4%
8. Lustrous Red-Film Ware (B type)	3 sherds
9. Nonbrittle Painted Ware with Hatched and Crosshatched Motifs	0–5%
10. Halaf Painted Ware	2–7%
11. Local Painted Ware imitating Halaf (C type)	1–6%

12. Derived Samarran(?) Ware (late B or C?)	2 sherds
13. Transitional Fine-Line Painted Ware (D type)	1 sherd
14. ᶜUbaid-like Monochrome Painted Ware (mainly E type)	0–5%
15. Phase F Smooth-faced Simple Ware	5–10%
16. Phase F Chaff-faced Simple Ware	10–15%
17. Other Phase F wares	3–7%
18. Unclassified painted sherds	0–3%

One final point, which emphasizes the inconsistency of the First Mixed Range, is the proportionately increasing rate of appearance of Phase F wares within its three subdivisions (see p. 100).

Coarse Simple Ware

(0–4% of total selected sherd bulk)

This ware was recognized as present in small quantity and with no significant changes. The paste (see p. 70) is not now a useful criterion, for that of the Chaff-faced Simple Ware of Phase F, also present here, is very similar. However, it was possible to isolate the small

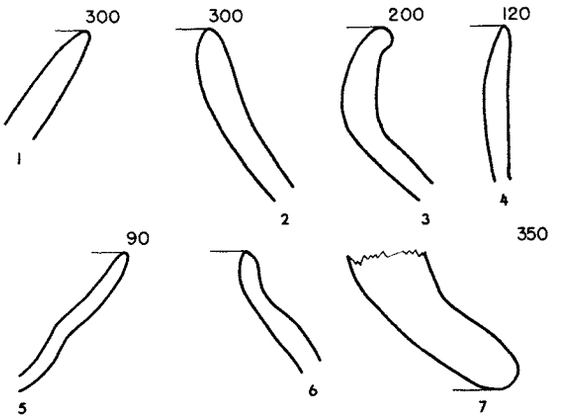

Fig. 73.—First Mixed Range. Coarse Simple (*1–4*) and Coarse Red-slipped (*5–7*) Wares. Scale, 1:3

proportion of Phases A–B Coarse Simple Ware because in the Phase F ware rims tend to be accentuated with some variety of molding (see pp. 232 ff.). But since this criterion is less reliable than would be desirable, it was used only with reference to the floor 23 material (this representing the total of the proportion expressed above). All other coarse simple sherds not showing typical Phase F profiles were discarded.

A few examples fall slightly outside the range of profiles available for Phase B (see Fig. 40). A large hole-mouth vessel (Fig. 73:2) and jars with tall collars (Fig. 73:3–4) are evidently new but are certainly well within the B tradition of forms. No bases or decorated sherds appeared in the group.

Coarse Red-slipped Ware

(0–4% of total selected sherd bulk)

Much the same situation exists here as for the Coarse Simple Ware. The only sherds represented in the proportion expressed above are reliable examples from floor 23. They show nothing significantly new with respect to Phase B (see Fig. 41), the small number classified being of bowls and collared jars. A sherd of a cuplike bowl (Fig. 73:5), a sherd of a small jar of uncertain rim diameter (Fig. 73:6), and a sherd of a heavy flared foot or rim (Fig. 73:7) represent forms which are not available in the Phase B assemblage.

Coarse Incised or Impressed Ware
(0–4% of total selected sherd bulk)

No question of confusion with Phase F wares arises here, for the characteristic incised or impressed decoration does not appear in Phase F. It is interesting that these sherds were restricted to floor 23 and its debris. Since it was not necessary to impose arbitrary restrictions in classifying them, the small proportion present in the First Mixed Range more or less assures us that the proportions given for the simple and slipped coarse wares must be fairly close approximations of the conditions which held, even though it was necessary to discard some questionable examples from those two categories.

Again no new features appear with respect to Phase B (see Fig. 42). Most of the sherds are body sherds, and the same proportion of slipped to unslipped examples evidently held.

Dark-faced Burnished Ware
(42–47% of total selected sherd bulk[6])

The presentation of this group is made with respect to certain generalizations:

1. There is no possibility of confusing this ware with any of the Phase F wares.
2. The ware is known to have persisted in the ʿAmuq from Phase A (as known on Judaidah) to Phase E (as known on Kurdu).
3. The earliest known examples of the ware on Kurdu, as seen from the restricted Phase C exposure (see pp. 138–41), have a somewhat different character from that noted in Phases A and B on Judaidah. This is noticeable in the paste, in the surface treatment, and in the addition of certain new profiles. The differences are probably due to developments during late Phase B or early Phase C which cannot yet be examined on the basis of stratified material and to the use of different clay sources.
4. Examples which were produced later than the material from the stratified Phase B range on Judaidah but earlier than that from the Phase C range on Kurdu may actually be in hand in the First Mixed Range. Such examples could be isolated, as matters stand, only on technological grounds.
5. There is little doubt (again on technological grounds) that examples exist in this group which are not essentially different from those of Phase B on Judaidah or from those of Phases C, D, and E on Kurdu.

Certain impressions were formed in studying and restudying the individual sherds in the group, but, since the group is certainly not consistent as regards referring to any one phase (in the range late B to E), these impressions are worth exactly what the word implies and no more.

Whereas Phase B saw a general improvement in the art of potting over Phase A, the examples in the First Mixed Range do not show consistent further improvement. In general the fabric is the same as in Phases A and B, but there are sherds of finer more sandy and less brittle fabric, even excepting a group of Kurdu-like sherds (see p. 110). There seems to be an increase in the use of a slip, which acted to produce a more positive surface color, black or red-orange depending on firing conditions. And such positive surface color is most often found on well made pots with thin walls, clear-cut outlines, and good burnishing (see Figs. 80:2–3 and 81:2–3, Pls. 13:3, 7 and 15:1, 8). Some of these cases are by far the best examples of potting exhibited in the whole group, but the general run of sherds shows a tendency to carelessness in surface treatment though not necessarily in construction. Burnishing is likely to be haphazard and used only where absolutely necessary, and surface color remains a dull gray-brown buff.

[6] Of this bulk, 72–77% have plain burnished surfaces, 3–8% have impressed or incised decoration, 13–18% have pattern burnish, and 5–10% are of the recognizable Kurdu varieties.

There is nothing to add to what has been said about this ware in Phase B (see p. 73). Braidwood's point that there is a greater use of slip could indicate Kurdu influence or the presence of Kurdu potters at Judaidah.—MATSON.

There is also evidence of changes in the forms. The proportion of bowls is much reduced, such vessels evidently being more favored in other wares.[7] They tend to be more open and straight-sided (Figs. 74:2, 75:1), though the hemispherical profile so characteristic of Phase B (see Fig. 45:1) is present (Fig. 76:1–5). Very low bowls are present (Fig. 75:1–2), but the

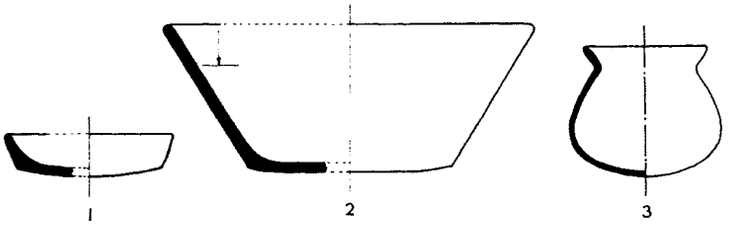

FIG. 74.—FIRST MIXED RANGE. DARK-FACED BURNISHED WARE. SCALE, 1:5

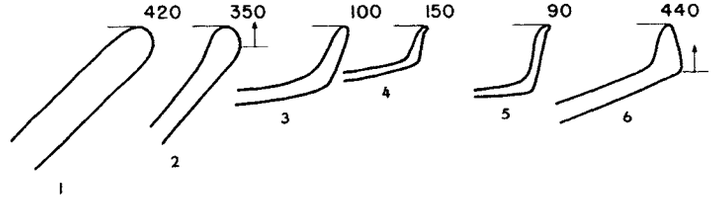

FIG. 75.—FIRST MIXED RANGE. DARK-FACED BURNISHED WARE. SCALE, 1:3

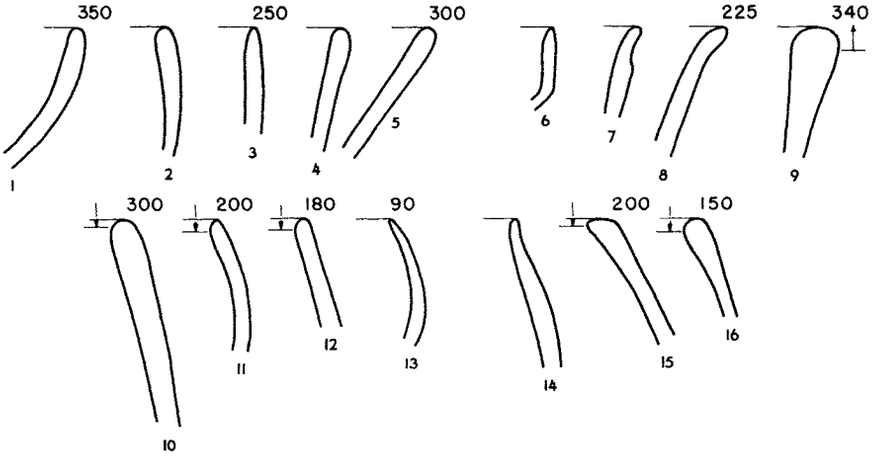

FIG. 76.—FIRST MIXED RANGE. DARK-FACED BURNISHED WARE. SCALE, 1:3

sherds indicate that they are somewhat higher than those of Phase B (cf. Fig. 43:1), and they seem to be merging with the new (characteristic?) straight-sided bowls (Fig. 74:2). No examples of the ring or low pedestal bases (see p. 73) were found. The burnish tends to be applied only on the inside and over the rim (Fig. 75:2), and in such cases the outside has the scraped effect mentioned on page 73. A few examples are burnished on the outside but not on the inside. Low carinated bowls (Fig. 75:3–6) are represented by less than 1% of the burnished ware sherds. No change is noted from Phase B, although one quite flat-bottomed ex-

[7] Note the bowl sherds available in the various painted wares described below. In the Dark-faced Burnished Ware, rim sherds of bowls vastly outnumber rim sherds of hole-mouth jars in Phase B, while in the First Mixed Range sampling the two groups of rim sherds are approximately equal.

ample appeared (Fig. 74:1) in a rather finer clay than usual and with a red-orange slip. There are a few bowl profiles which we do not attempt to classify (e.g. Fig. 76:6–8) and several thick-rimmed bowl sherds (Fig. 76:9) similar to Dark-faced Unburnished Ware examples of Phase B (see p. 78). One remarkable straight-sided bowl (Figs. 80:1 and 81:1, Pl. 13:2) with pattern burnish and plainly marked stumps of a tripod base appeared. No sherds were found to indicate how the stump feet terminated. The small bowls with incurved rim and loop handles (see Fig. 46:17) have practically disappeared.

The hole-mouth forms themselves (Fig. 76:17) are evidently not much changed; vessels with burnish below the lip on the inside are rare, although the outside generally has fair burnish. This class has the largest number of counterparts in the Dark-faced Unburnished Ware of Phase B (see p. 78). The few examples of vestigial ledge handles (cf. Fig. 44:21–26) refer to hole-mouth vessels.

Collared jars make up the largest part of the burnished ware sherd bulk. Examples with low collars are quite rare, and almost half of them are considered to be of the Kurdu variety (see p. 110). The remainder show no change from Phase B, and only the normal profile is illustrated

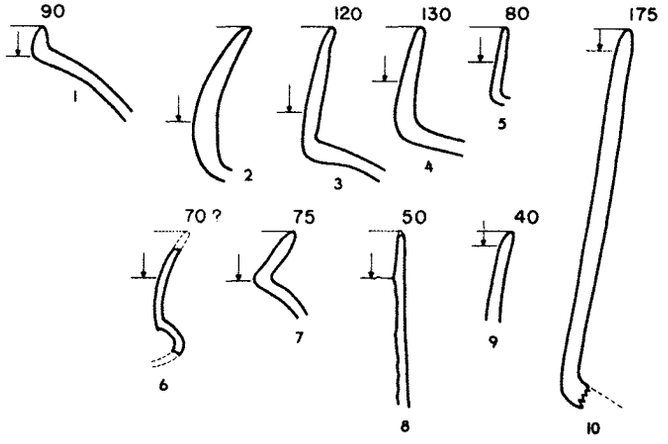

FIG. 77.—FIRST MIXED RANGE. DARK-FACED BURNISHED WARE. SCALE, 1:3

(Fig. 77:1); three small more or less whole examples were found (cf. Fig. 45:2). Jars with high added collars make up almost 50% of the total sherd bulk of the burnished ware. They show little change from Phase B, except for an occasional better-potted example with thin walls, sharp profile, and slipped surface. An excellent complete example (Figs. 80:2 and 81:2, Pl. 13:7), recovered from burial x S 20, shows the form at its best, as well as pattern burnish. There are two more or less complete pots with plain burnish, one of which (from burial x S 19) has a lower and more flared collar than usual (Fig. 74:3, Pl. 13:6). The sherds (Fig. 77:2–10) show several other variants: one very tall collar, several very narrow collars, a number more flared than usual, and a form with a very squat body (Fig. 77:6). The last has a counterpart in a cup with pattern burnish (Figs. 80:3 and 81:3, Pl. 13:3). A few cases with the marks of a strainer attachment inside the collar occur (Fig. 77:8; cf. Fig. 47:19).

The First Mixed Range produced no examples of either the suggested beaker form or the small carinated jars which have a sparse appearance in Phase B (see Fig. 48:1–4), unless a little base sherd (Fig. 78:5) with pattern burnish can be restored as a beaker-like cup.

Ledge handles are very rare, there being only four examples of the small nonfunctional type (see Fig. 44:21–26). Pierced blob handles appeared on six sherds (Fig. 78:1–3). Only one other possible secondary feature was noted, a sherd which is probably part of a cylindrical spout (Fig. 78:8). It shows clear traces of burnish on the inside of the body wall, which would have been impossible to achieve unless the pot had another opening considerably larger than that

which the sherd indicates. It is also noticeable that, crudely formed as this sherd is, there is a definite oblique angle between the plane of the lip and the central axis of the opening.

The proportion of base sherds is low (*ca.* 5% of the burnished ware sherd bulk). They are little changed from Phase B, a typical example being that of a bowl (Fig. 74:1). The implication, as in Phase B, is that there must have been a number of vessels with rounded or only slightly flattened bases, whose base sherds were not differentiated from body sherds in the sortings (cf. Figs. 80:3 and 81:3, Pl. 13:7). One small but thick round-bottomed base sherd is shown (Fig. 78:7), also the approximate range of flat bases (Fig. 78:4–5). One sherd of a thin-walled pedestal base appeared (Fig. 78:6). The reader is reminded of the bowl with stumps of a tripod (Figs. 80:1 and 81:1, Pl. 13:2).

The sortings from the First Mixed Range show a change in the proportions of decorative techniques. In Phase B, 12–17% of the sherds have impressed or incised decoration; here the proportion is only 3–8%. In Phase B pattern burnish (see p. 77) appears on 4–9%: here it is

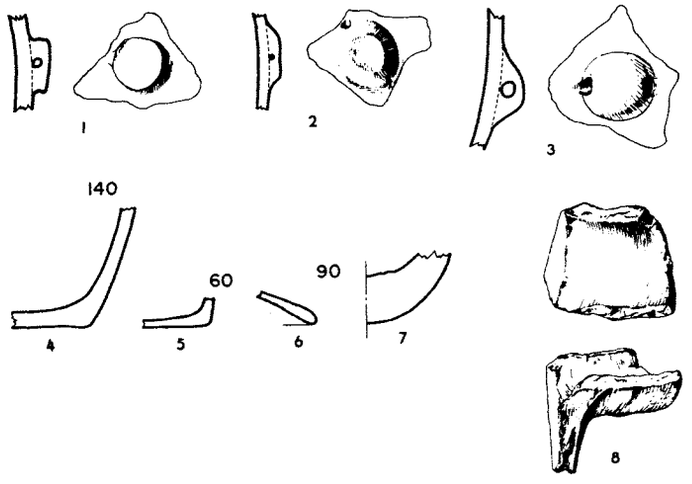

FIG. 78.—FIRST MIXED RANGE. DARK-FACED BURNISHED WARE. SCALE, 1:3

on 13–18%. The decline of the impressed or incised technique is consistent with what is known of the ware in Phases C–E on Kurdu.

Within the small sampling of sherds with impressed or incised decoration, all the types found in Phase B (see Figs. 49–50) are present, including body sherds of large jars with rocker impressions (see Fig. 50:1–3). Only two examples with closely set mechanically applied impressions are shown here (Fig. 79:1–2, Pl. 15:4); this type of decoration is sometimes erroneously called "excised."

Fine examples of pattern burnish appear on three of the more or less complete pots: the tripod bowl (Figs. 80:1 and 81:1, Pl. 13:2) and the collared jar (Figs. 80:2 and 81:2, Pl. 13:7) with patterns in a paneled band, the cup (Figs. 80:3 and 81:3, Pl. 13:3) with a band of chevrons. Simple crosshatching is by far the most common of the normal varieties of patterns (Fig. 79:5–15, Pl. 15:2–3). As in Phase B, sherds bearing pattern burnish are generally thinner-walled and of finer clay than the normal run of burnished ware, and the color is usually a positive black or red-orange, although the more general chocolate-buff also occurs. A slip[8] is generally used. No cases with burnish on the inner surface occurred.

Two special types of surface treatment need mention: a fine-grained roughening effect is stopped by a burnished area on the outside of several jar sherds (Fig. 79:3, Pl. 15:5), and well

[8] Whether a self-slip or a true slip is often uncertain.

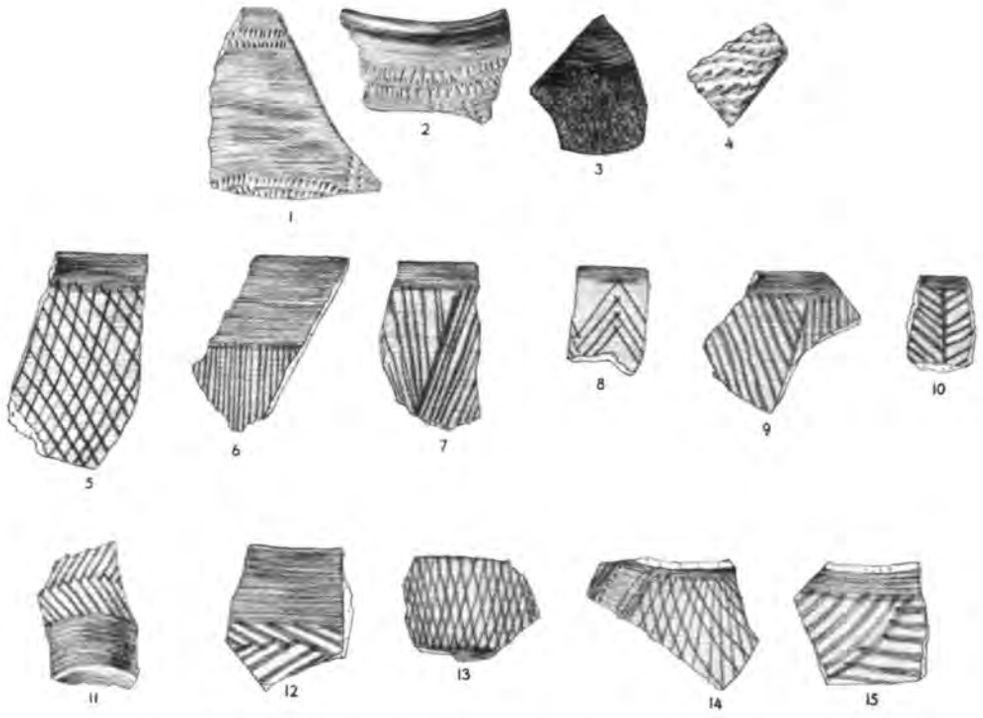

FIG. 79.—FIRST MIXED RANGE. DARK-FACED BURNISHED WARE. SCALE, 1:3

marked cord impressions occur on another sherd (Fig. 79:4, Pl. 15:13). Both cases are in the normal burnished ware clay.

A small group of sherds (5–10% of the total selected sherd bulk) is deemed to be of the Kurdu (Phases C–E) variety of Dark-faced Burnished Ware on the basis of gross examination of clay, surface treatment, and form. Six examples are from the debris above floor 22, from a sorting which was characteristically Phase F and from which there was no difficulty in separating them. The sherds grouped here (Fig. 82 and Pl. 15:6, 7, 9, 10, 12, 14, 15) all show one or more of the following traits which are characteristic of the ware at Kurdu:

1. More sandy clay
2. Thick and often spalling slip
3. Red-orange "wiped burnish" (Fig. 82:1–2, 5 and Pl. 15:9, 12)[9]
4. Burnish on rim area only of bowls (esp. Fig. 82:3–4 and Pl. 15:10, 15)
5. Bowls with flared collars and jars with more flaring collars (Fig. 82:9–10, Pl. 15:14)
6. Tendency to pinch, flatten, or outroll bowl rims (Fig. 82:3–5)

Hence this group, as well as the painted groups (see below), gives substance to the proposition that Judaidah was inhabited during Phases C–E, whatever may be the reason for the architectural gap in JK 3.

DARK-FACED UNBURNISHED WARE

(7–12% of total selected sherd bulk)

As in Phase B (pp. 77 f.), the clay of this ware is essentially the same as that of the Dark-faced Burnished Ware. Heavy-lipped hole-mouth jars (Fig. 83:5–7, Pl. 15:11), preponderant in Phase B, evidently increase in proportion, but heavy-lipped bowls (Fig. 83:4) seem less numerous than in Phase B. Examples with plain rounded lips—bowls, hole-mouth jars, and

[9] Characteristic of Phase D on Kurdu (see pp. 160 ff.)

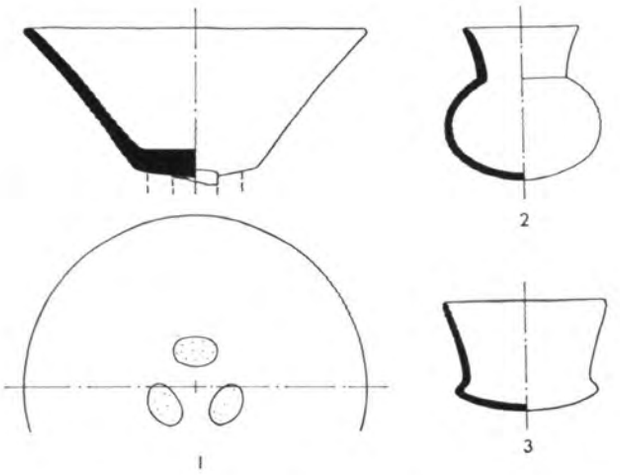

FIG. 80.—FIRST MIXED RANGE. DARK-FACED BURNISHED WARE (SEE FIG. 81). SCALE, 1:5

FIG. 81.—FIRST MIXED RANGE. DARK-FACED BURNISHED WARE (SEE FIG. 80). SCALE, 1:2

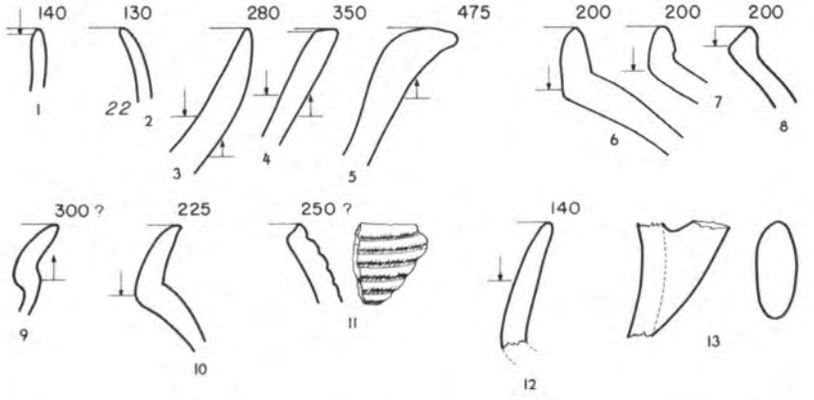

FIG. 82.—FIRST MIXED RANGE. DARK-FACED BURNISHED WARE OF KURDU (PHASES C–E) TYPE. SCALE, 1:3

collared jars—are far in the minority. One interesting observation as regards surface treatment is indicated, in a general way only. The thick-lipped examples as a group have rough almost grainy surfaces, while the plain-lipped examples are more or less smoothed, some in fact almost as smooth as burnished surfaces but never showing marks of a burnishing tool. Hence it may be that the large thick-lipped examples were produced as a stable class, probably for use as cooking pots, while the other forms represent unfinished examples of the burnished ware, which, through accident or carelessness, did not receive their burnishing. This suggestion would almost certainly hold for certain examples such as a carinated bowl rim (Fig. 83:1).

Two details need mention. A couple of probable scoop fragments (cf. Fig. 53) appeared and also a fragment of what must have been the high pierced base of a bowl (Fig. 83:11), the latter being from the debris above floor 22.

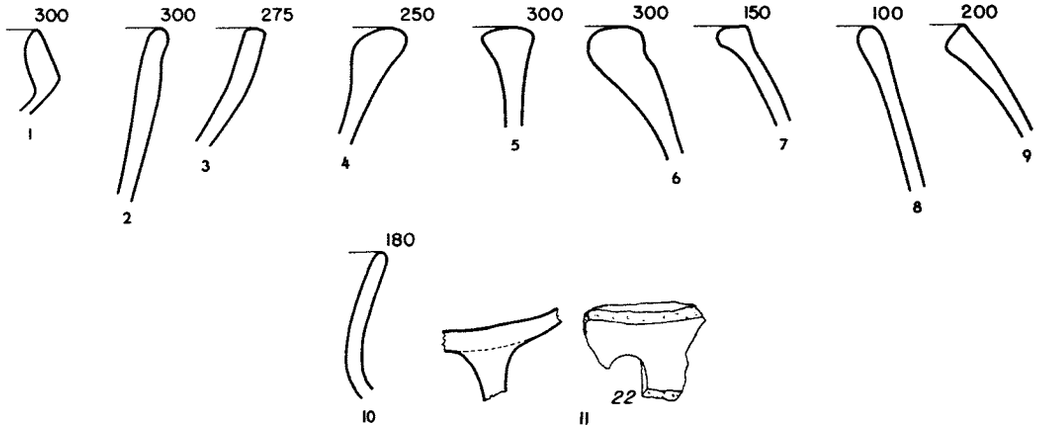

FIG. 83.—FIRST MIXED RANGE. DARK-FACED UNBURNISHED WARE. SCALE, 1:3

WASHED IMPRESSED WARE

(1–3% of total selected sherd bulk)

This easily recognizable ware (see p. 78 and Fig. 54), which does not appear in Phase C on Kurdu, is so sparsely represented that it may safely be assumed that it goes out of use by the end of Phase B or the beginning of Phase C.

PAINTED WARES

(23–28% of total selected sherd bulk)

The painted wares of the First Mixed Range are divided into eight groups, none of which is large enough to allow a very reliable gross description of the clay. The following descriptions are based on (1) the general similarities which most of the groups show to wares described on the basis of larger samplings from Phase B on Judaidah and Phases C–E on Kurdu and (2) an apparently inherent consistency of painted motifs, surface treatment, and paste in each of the groups save the unclassified one. It will be noted, however, that not all the groups correspond exactly to recognized wares. Some must await further excavation for full and reliable description.

1. Brittle Painted Ware (0–4% of total selected sherd bulk). This ware is described in some detail under Phase B (see pp. 80–82 and Fig. 55), and the examples shown here (Fig. 84, Pl. 14:1) merely supplement those of Phase B. No particular changes are indicated. The ware is practically nonexistent by the time of floor 22, an indication, together with the fact that it is not present in Phase C on Kurdu, that it dies out in late Phase B or early Phase C.

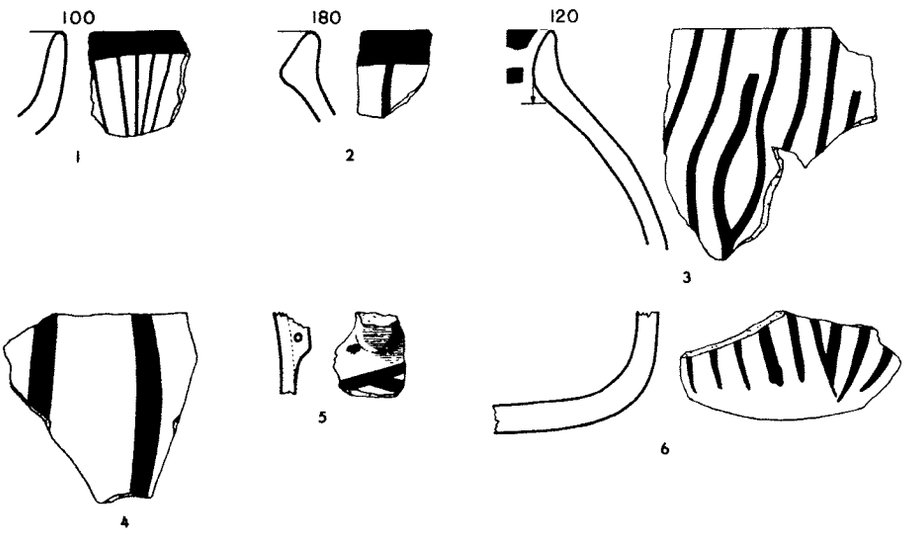

FIG. 84.—FIRST MIXED RANGE. BRITTLE PAINTED WARE. SCALE, 1:3

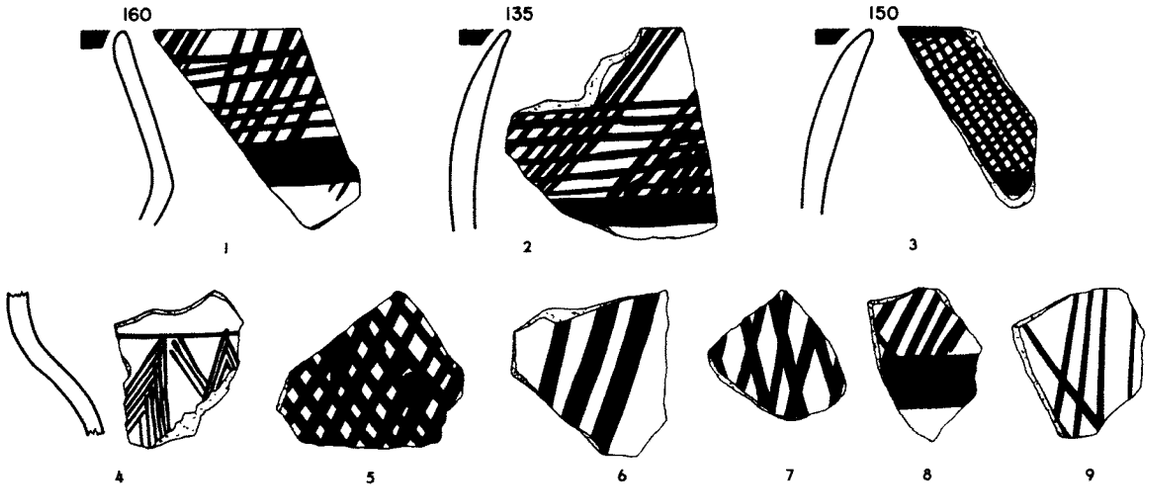

FIG. 85.—FIRST MIXED RANGE. NONBRITTLE PAINTED WARE WITH HATCHED AND CROSSHATCHED MOTIFS. SCALE, 1:3

2. Nonbrittle Painted Ware with Hatched and Crosshatched Motifs (0–5% of total selected sherd bulk). Four examples appeared in the uppermost debris of Phase B (see p. 83 and Fig. 57:1–2). For the most part the fabric is sandy and nonbrittle, orange-buff in color, with no special surface treatment. The paint varies from black to orange-brown. Rim and shoulder sherds indicate hole-mouth and collared-jar forms (Fig. 85:1–3). Of the motifs (Fig. 85 and Pl. 14:4, 6, 7), that with narrow bands crossed by groups of oblique hatches seems to be most characteristic, although simple crosshatch is common. It seems rather improbable that these motifs developed directly from the simple vertical motifs of the Brittle Painted Ware, but there may be less justification in separating some of them from group No. 3. The fabric, in gross examination, seems the same as that of group No. 3, where it would be reasonable to classify, for example, a rim sherd with fine crosshatch (Fig. 85:3). It may perhaps be assumed for the moment that group No. 2 represents the second painted ware to appear in the ʿAmuq (the Brittle Painted Ware of Phase B being the first) and that it belongs to the now missing late Phase B or early Phase C range.

3. Local Painted Ware (1–6% of total selected sherd bulk). The formal geometric motifs have counterparts in the Local Painted Ware of Phase C on Kurdu (see p. 146 and Figs. 113–15). The Kurdu examples are known to be in association with Halaf pottery and are assumed to be local imitations of Halaf. On gross examination, the fabric is the same as that of group No. 2, with no special surface treatment. The paint is generally orange-brown but sometimes black. The forms indicated by the sherds (Fig. 86) are straight-sided bowls, bowls with flared collars, and jars with flared and rather vertical collars. The motifs (Fig. 86, Pl. 14:9–10) are very simple, but diamonds, chevrons, and wavy bands and swags inside bowl lips are new in the ʿAmuq. Since these motifs appear on Halaf sherds, it is assumed that we have here local copies of Halaf pottery.

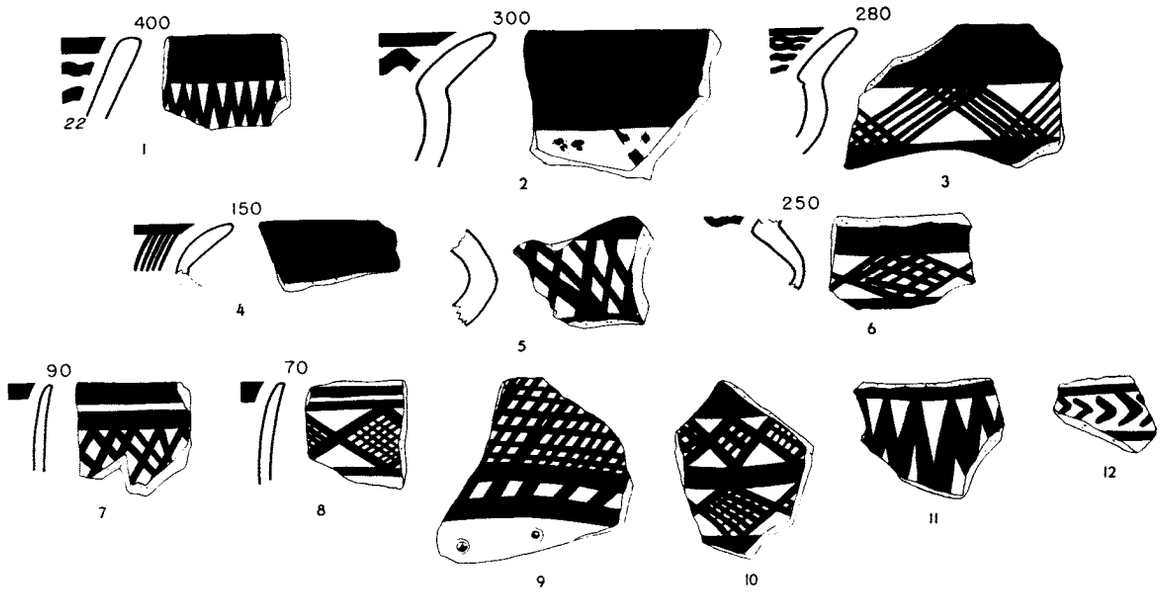

FIG. 86.—FIRST MIXED RANGE. LOCAL PAINTED WARE IN HALAF STYLE. SCALE, 1:3

4. Halaf Painted Ware (1–6% of total selected sherd bulk). Sherds are classified in this group if they exhibit a combination of the so-called "glazelike paint" which is so characteristic of published Halaf pottery and motifs, some quite simple, which are found in the Halaf repertoire. It is freely admitted, however, that the basis for classification of the simpler motifs here instead of in group No. 3 is the glazelike paint alone. There is no known reason why both the materials and the heat of firing necessary to achieve the glazelike effect could not have been produced in the ʿAmuq itself. Hence some of the sherds classified here may be just as local as those in group No. 3. Furthermore, the combination of glazelike paint and more complicated Halaf type motifs, both here and in Phase C on Kurdu, does not necessarily prove importation merely because these sherds make up only a small part of the total selected sherd bulk. The assumption that at least some represent directly imported vessels rests on Matson's study of the body clays (see below and p. 148). However, in gross examination the fabric looks very similar to that of group No. 3, although it may be generally of a slightly lighter shade of orange-buff. The glazelike paint, with its more shiny surface and tendency to craze, varies from red-orange to brown-black (Pl. 81:4) to black.

Three-fourths of the sherds in this group appear to be made from local clay, while the rest—of thin brittle paste—are definitely foreign. The latter are made of well levigated *sericite* type clay and have an isotropic surface zone indicative of a firing temperature high enough to cause the clay to begin to fuse. The arrival of this ware no doubt had a strong influence on local ceramic development.—MATSON.

The forms indicated by the sherds are mainly bowls (Fig. 87:1–7), perhaps all with flared collars (cf. Fig. 114:2), and jars with flared collars (Fig. 87:12–13). Sherds of jars with more vertical collars also appeared (Fig. 87:9–10), as well as hole-mouth forms (Fig. 87:8) and a shoulder sherd of a low-collared jar with a pierced lug handle (Fig. 87:11).

The motifs (Fig. 87, Pls. 14:19 and 81:4) include swags and multiple wavy bands, chains, chains with dots, bands of small ellipses or diamonds (sometimes dot-filled), bands of "sigmas"

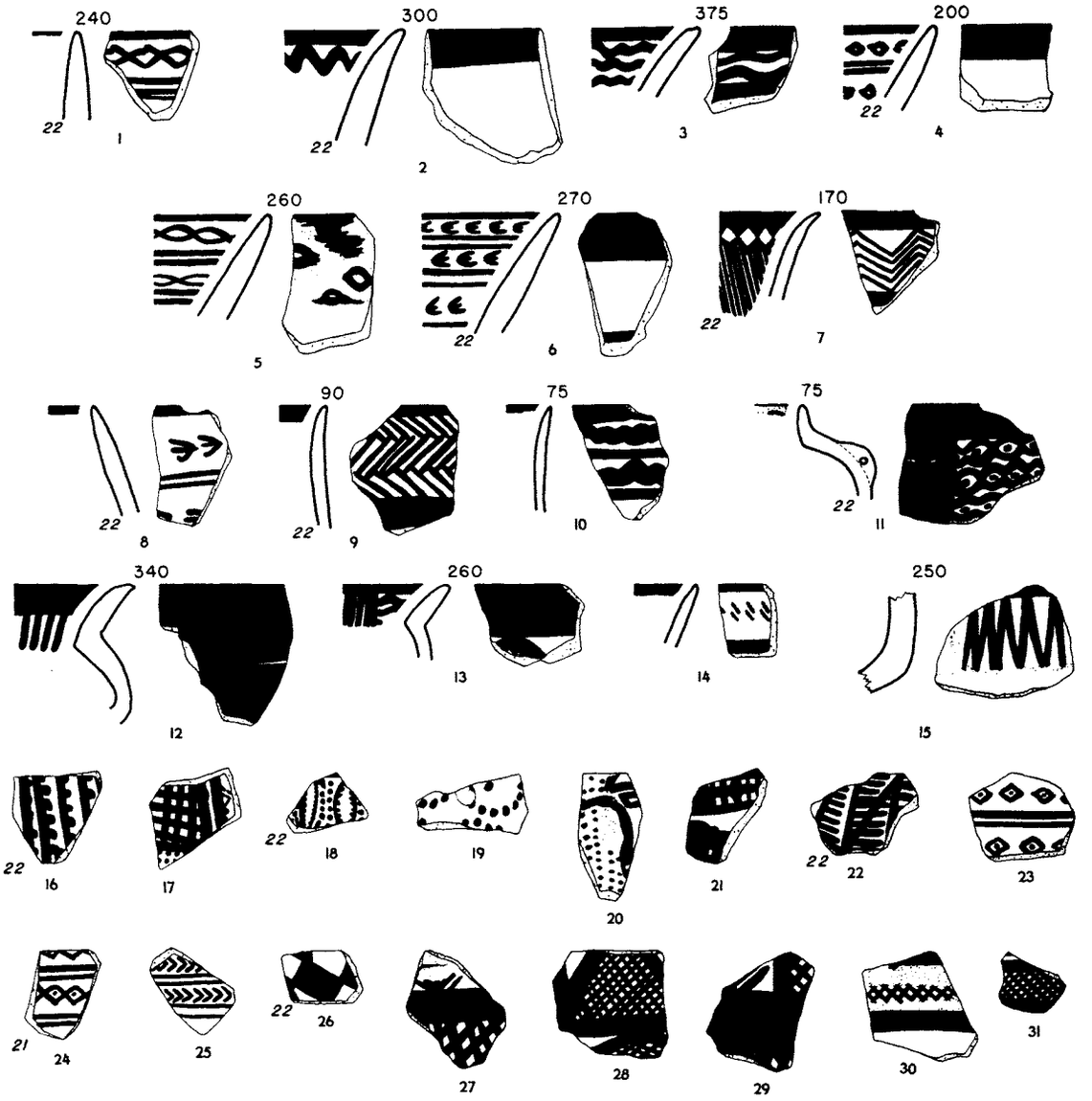

FIG. 87.—FIRST MIXED RANGE. HALAF PAINTED WARE. SCALE, 1:3

(some reversed), a variety of vertical and horizontal chevrons, inner bands of radial lines or fringes suspended from triangles, a variety of crosshatches (some in triangles, diamonds, or panels), lines feathered with either dots or short strokes, and freestanding dot patterns.

The sherds of this group, more noticeably than any others in the First Mixed Range, are generally small and have badly eroded edges. Since there is no reason to suspect that this ware is any more fragile than the general run of contemporary pottery, the size and condition of the sherds must be connected in some way with the circumstances that resulted in the ceramic unconformity of the First Mixed Range (see pp. 100 ff.).

5. Halaf(?) Cinnamon Ware (0–3% of total selected sherd bulk). This classification accounts for a few painted sherds (Fig. 88, Pl. 14:21–22) of a rather brittle finely textured cinnamon-colored fabric. Matson is convinced that this is not made from a local clay (see p. 148). The paint is not glazelike, however, being dull and rather thin. The color ranges from orange to brown-black.[10] A fine-grained cinnamon-colored fabric with glazelike paint does appear in North Iraq Halafian contexts, but there is little else to suggest the origin of this group save for a motif which appears to be the recumbent bukranium (Fig. 88:1).

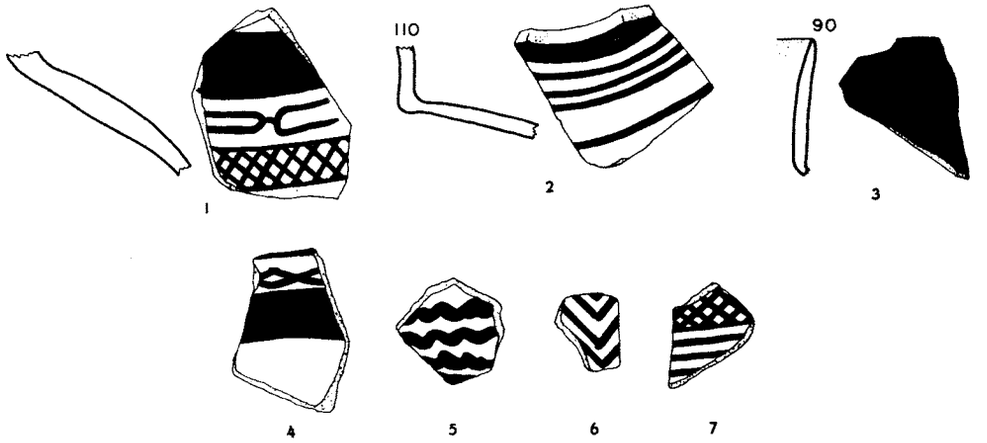

FIG. 88.—FIRST MIXED RANGE. HALAF(?) CINNAMON WARE. SCALE, 1:3

6. Other Probably Pre-Phase E Sherds. Only four sherds are included here. The first (Fig. 89:1) is megascopically and decoratively similar to the Transitional Fine-Line Painted Ware of Phase D (see p. 165). A fine-line chevron band is in dull black paint, and a plain band is in dull red-orange paint. Two sherds (Fig. 89:2–3) have what might possibly be considered derived Samarran motifs. Matson made a microscopic section of the rim sherd (Fig. 89:2, Pl. 18:9) and reported as follows:

> There is no microscopic evidence to suggest that this sherd represents an import, but its very high firing temperature, a feature which is not found until Phase E in the ᶜAmuq wares that have been examined in detail, could indicate importation. No definite statement can be made.

The peglike elements suspended from its lip are perhaps most suggestive of the Samarran painted style. The profile, on the other hand, could as well be Halafian. The fourth sherd (Fig. 89:4) is an example of Corrugated Painted Ware, with dull brown-black paint. This ware is sparsely represented on Kurdu in Phases C–E (see p. 180). Similar examples have appeared at sites with Halaf pottery.

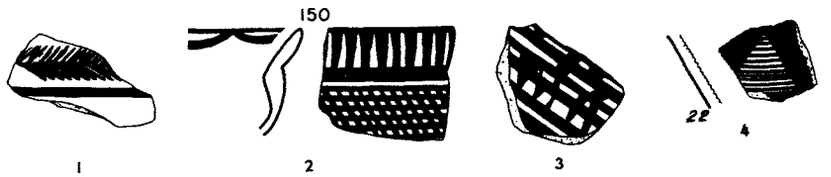

FIG. 89.—FIRST MIXED RANGE. PAINTED SHERDS, PROBABLY PRE-PHASE E. SCALE, 1:3

7. ᶜUbaid-like Monochrome Painted Ware (1–5% of total selected sherd bulk). The sherds (Fig. 90, Pl. 18:24–27) in this group are classified on the basis of motifs as well as clay and paint (i.e., none with glazelike paint). They are generally comparable with the ᶜUbaid-like

[10] A jar collar (Fig. 88:3) actually has a rather smeared effect, the color film being thin. The smearings are horizontal.

Monochrome Painted Ware, which is the preponderant ceramic trait of Phase E (see pp. 181 ff. and Figs. 146–57). The fabric is probably not essentially different from that of groups Nos. 2–3 but is generally more completely oxidized, the proportion of plain light buff and faintly greenish-buff sherds being almost equal to the usual orange-buff. The paint varies from somewhat purplish brown or greenish black to black and is generally thin but quite opaque. It is readily admitted that certain sherds with simple hatched motifs might be better-fired examples of group No. 2.

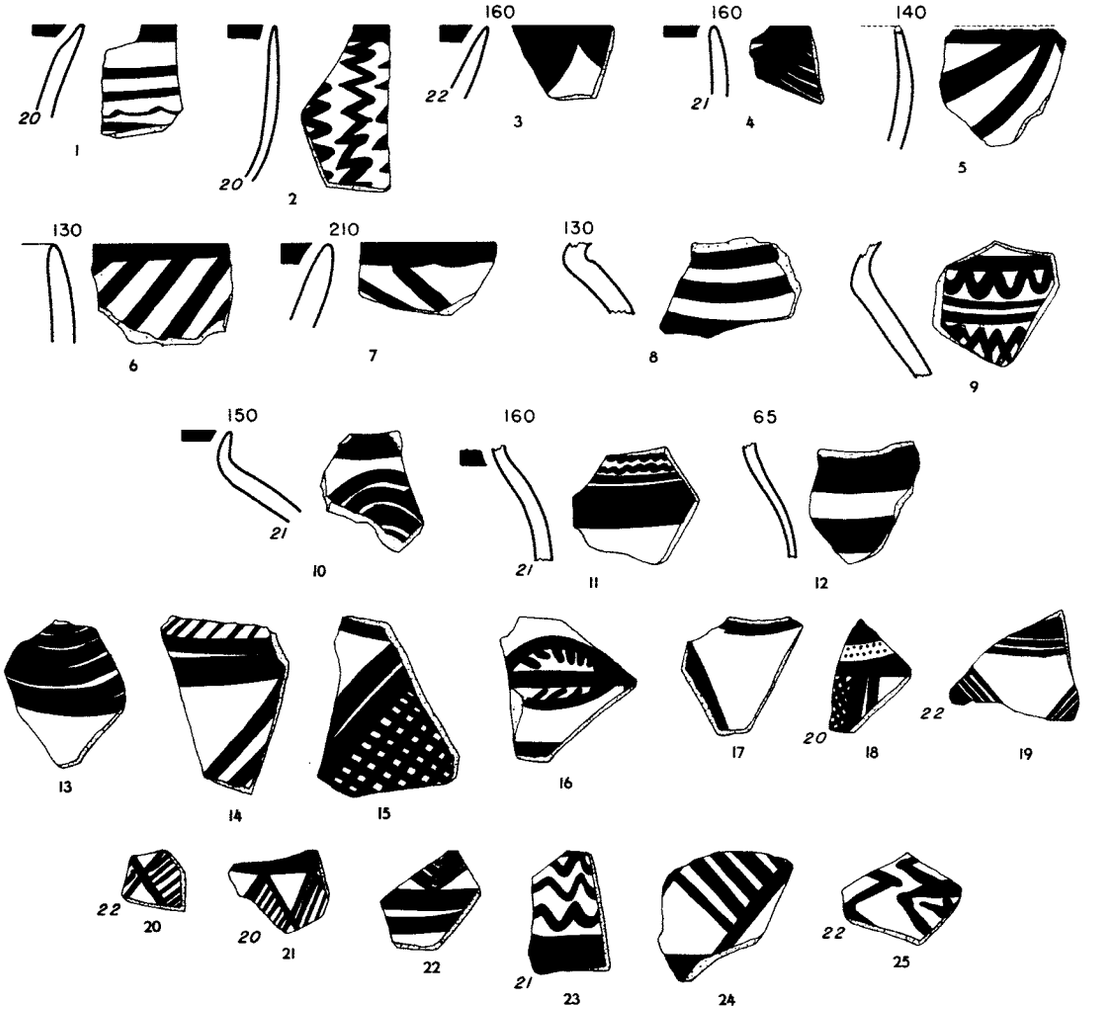

FIG. 90.—FIRST MIXED RANGE. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

Plain hemispherical bowls (Fig. 90:1–7), low-collared jars (Fig. 90:10), and little sacklike cups (Fig. 90:12) are characteristic of the ʿUbaid-like Monochrome Painted Ware of Phase E. Examples of bowls with flared lip (see p. 184 and Fig. 145:11, 13, 15) do not appear here. Plain and wavy bands, swags, zigzag lines, hatched bands or panels, and bands of hatched diamonds are all in the ʿUbaid-like tradition of Phase E. Certain of the combinations of motifs do not appear in the stratified and much more ample sherd sortings from Phase E on Kurdu, but the individual elements are all recognizable.[11]

[11] In none of our operations in the ʿAmuq did we find material representing a transition from Phase E to Phase F. If we assume that there was a transition rather than an abrupt change, we must then allow that the uppermost Phase E material on Kurdu may not represent the latest Phase E manifestation in the ʿAmuq. There are a few suggestions that such may be the case (see p. 181, n. 4). Thus certain of the less Kurdu-like examples of group No. 7 may belong to a late Phase E development not seen on Kurdu.

8. Unclassified Sherds (0–3% of total selected sherd bulk). Here we have miscellaneous painted sherds which are too small to classify or which show characteristics in form, coloration, or motif that do not belong in any of the named categories. Those with distinguishable features are shown in Figure 91. The first rim sherd (No. 1), in a light greenish-buff clay, has dull black paint and vertical lines of punctations (Pl. 18:13). Our inclination would be to place it with the ʿUbaid-like Monochrome Painted Ware if anywhere. The second rim sherd (No. 2) is of soft orange-buff chaff-tempered clay, with black bands over a red-orange surface film (probably an ocherous slip) showing some burnish marks. Except for the black bands, this sherd would have been placed in Phase F. On the basis of clay and paint three sherds, with pierced lug, loop, and blob respectively (Nos. 3–5), could belong to group No. 3, No. 4, or No. 7. Two body sherds (Fig. 91:6–7, Pl. 18:28), probably both fragments of the same pot, are of a strange whitish-buff paste which appears almost vitrified on the surface and have dense but dull paint in both black and full red-orange; the fabric is quite different from any known in the ʿAmuq.

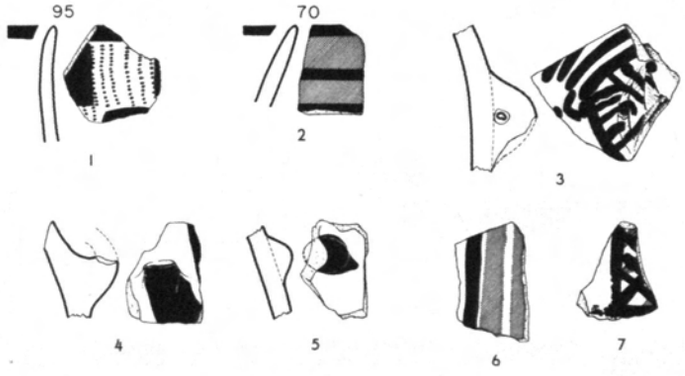

Fig. 91.—First Mixed Range. Unclassified Painted Sherds. Scale, 1:3

BAKED-CLAY OBJECTS

The fourteen[12] clay objects from the First Mixed Range appear, with one exception, to be made of the Dark-faced Burnished Ware type of clay. This is certain for the potsherd disks save for the exception (in Phase C Local Painted Ware clay) and megascopically quite certain for the molded objects. In view of the clays used, it is likely that these small objects belong to the earlier of the phases represented in the First Mixed Range.

There are three (x3896*b*, x5111, x5115) unpierced potsherd disks (d. *ca.* 32–80 mm.), one being in Phase C Local Painted Ware buff clay. Three pierced potsherd disks (d. *ca.* 38–48 mm.; e.g. Fig. 92:1–2) are indistinguishable from those of Phase B. A somewhat elliptical smooth-edged potsherd with ground striations (Fig. 92:7, Pl. 48:12) probably served as a polisher or a whetstone.

In the decorative category comes a fragmentary object of coarse clay, somewhat burnished, which may represent a crude attempt at modeling a human head (Fig. 92:3, Pl. 50:4). If so, the individual seems to have been meant to wear a cap with flaps over the ears. Three potsherd disks, or fragments of disks, probably served as pendants. The most formed example, a truncated ellipse, is pierced in proper pendant fashion (Fig. 92:5, Pl. 49:11). The second example is a small formless potsherd with a hole near the edge (Fig. 92:4), and the third is a fragment of a large disk (d. *ca.* 80 mm.) which likewise has a hole near the edge (Fig. 92:6). The holes may have been mending holes in the original pots and thus have no meaning here.

[12] Not including two pierced potsherd disks (x4128–29) and a small cone of unbaked clay (x4032) which were registered in the field but are otherwise not accounted for.

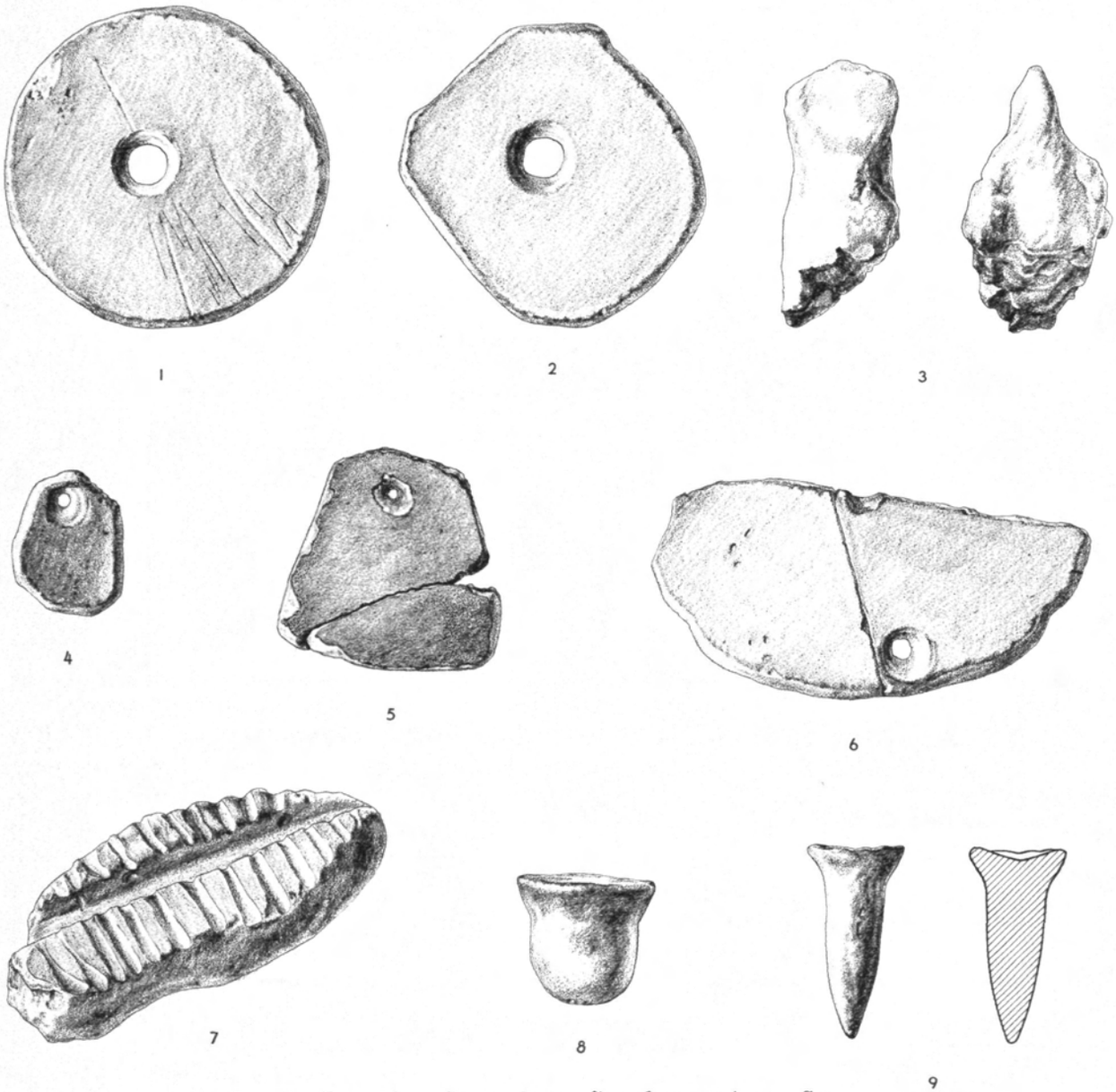

FIG. 92.—FIRST MIXED RANGE. BAKED-CLAY OBJECTS. ACTUAL SIZE

Objects of uncertain utility include a "nose plug" with one flat and one domed surface (Fig. 92:8, Pl. 49:9) and two small "nails" (d. 13 and 12, h. 28 and 24 mm.; e.g. Fig. 92:9, Pl. 49:6). All three objects are well burnished.

METAL OBJECTS

The First Mixed Range operations yielded three pieces of metal recognizable as tools and one formless lump of cupreous slag (x3897*b*). Two of the tools are copper reamers (or drills or awls); in neither is the beaten outer surface intact. The third tool is of wirelike lead.

The reamers (Fig. 93:1–2, Pl. 52:6) evidently had plain or chisel points at both ends and rounded rectangular cross sections. As in many later reamers, the thickest part of the intact example is about one-third of the way from one end. Both ends of the lead tool (Fig. 93:3) appear to be purposely rounded off. The bending is probably accidental.

Though no metal was found in Phases C–E on Kurdu, there seems to be no a priori reason why these tools could not fall into any one of the phases represented in the First Mixed Range.

Spectrographic analyses of the three tools indicated concentrations of elements as follows:

x3874 Major: lead; other traces weak (Fig. 93:3)
x4024 Major: copper, nickel; minor: arsenic, cobalt, phosphorus; other traces weak (Fig. 93:1)
x4281*a* Major: copper, silver; minor: arsenic, cobalt, nickel; other traces weak (Fig. 93:2)

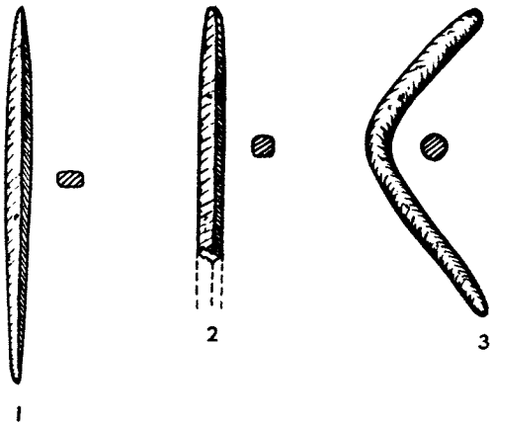

FIG. 93.—FIRST MIXED RANGE. METAL OBJECTS. ACTUAL SIZE

FLAKED STONE OBJECTS

The flint and obsidian artifacts of the First Mixed Range, discussed in detail by Mrs. Payne (pp. 530–33), like the pottery, show a mixture of Phases B–F types. A curious feature of the flints, however, is the consistency of the sickle blades, as first observed by Mrs. Payne. (This is always the largest group of worked flint implements and, on the whole, one of the most revealing.) Of the fifty-two sickle blades, eleven are Phase B tools with fine irregular denticulation made by bulbar-face retouch (Fig. 94:8) and two are Cananean (Fig. 94:11) and thus belong to Phase F, but the remaining thirty-nine (Fig. 94:1–7, Pl. 65:1–2) fit in perfectly with the Phases C–E sickle blades found at Kurdu. The other flints are relatively unrevealing. There are only a few projectile point fragments. Three, on the basis of their general shape and fluting retouch, are probably best assigned to Phase B; the fourth, which is a rougher specimen, may perhaps be of Phase F or possibly Phase B but does not look like Phase C, D, or E. The blades and blade sections are fairly rough. Two blade sections seem to be Cananean and thus to belong to Phase F. There is one good example of the Phases C–E type of broad blade with tiny striking platform, and there are a few tiny blade sections of the type favored in Phases A–B. The rest of the blades and blade sections might belong to any of the phases represented in the First Mixed Range. Not enough is known about the remaining types of artifacts in the various phases to assign any from the First Mixed Range to any particular phase.

In order to compare the relative frequency of the various types of Phases C–E sickle blades from Kurdu (see Table II and pp. 206–7) and from the First Mixed Range, we made the following sorting of the thirty-nine First Mixed Range examples:

Type (see Table II)		Number of specimens
1*a*	20	7 trapezoidal (Fig. 94:2–3) 5 curved (cf. Fig. 119:4) 8 triangular (see n. 13)
1*b*	7	trapezoidal (Fig. 94:1, 4, 5)
1*c*	4	1 large 3 small
2*b*	1	
3	1	
4*b*	6	

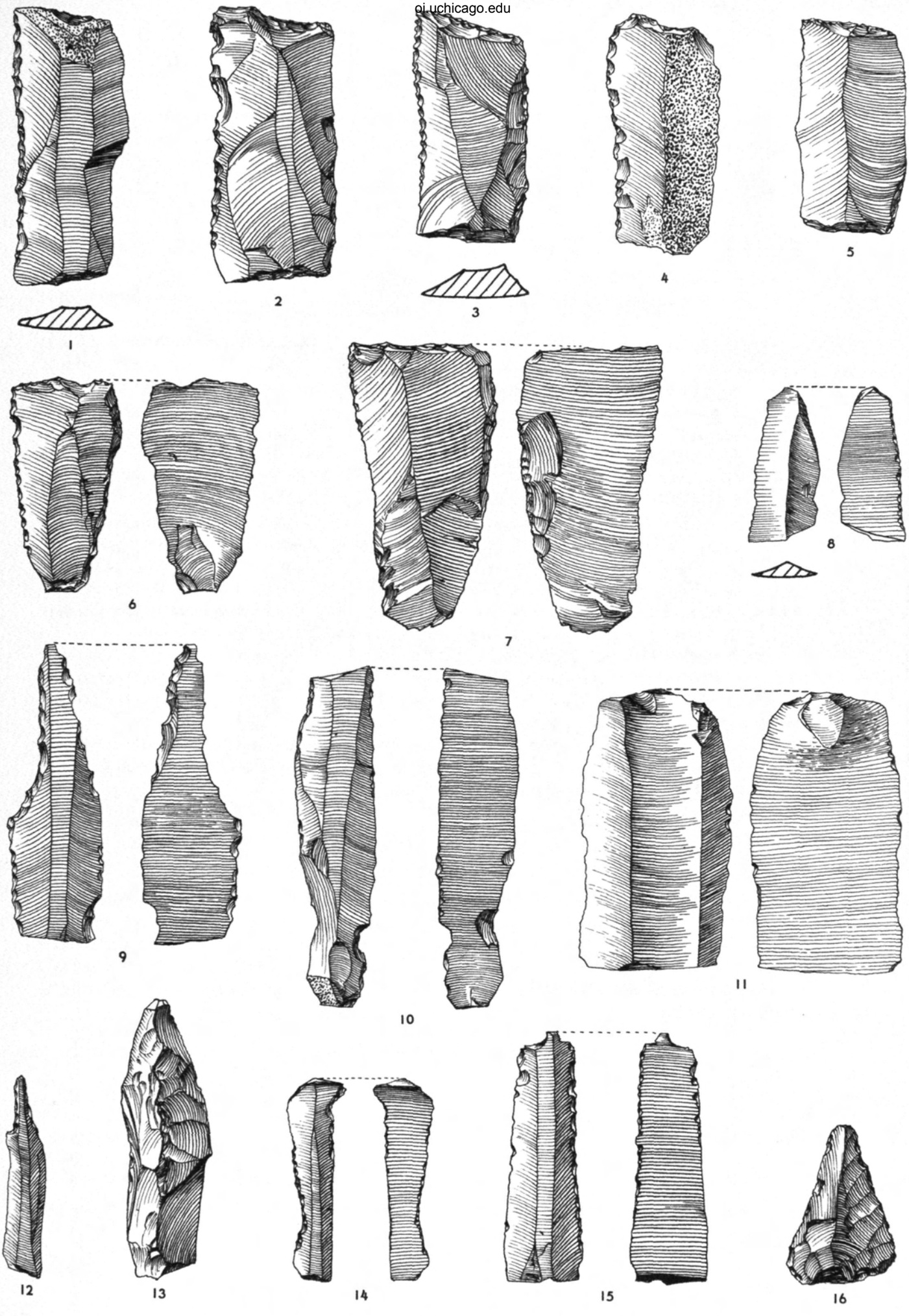

FIG. 94.—FIRST MIXED RANGE. FLINT (*1–13*) AND OBSIDIAN (*14–16*) ARTIFACTS. ACTUAL SIZE

We believe that Table II is probably a fairly reliable indication of the frequency of types of sickle blades occurring in late Phase C (i.e., the latest aspect of Phase C on Kurdu; see p. 137) and in Phase E on Kurdu. It is especially interesting that the relative frequency of sickle blade types in the First Mixed Range resembles that of late Phase C but is quite dissimilar to that of Phase E (and Phase D as we know it). The main features brought out by comparison of Table II and the sorting given above are the following:

Type 2 is strongly represented in Phase E (and Phase D) but poorly represented in Phase C and almost absent in the First Mixed Range.

Type 1*c*, the largest group in Phase E, is not much used in Phase C and is poorly represented in the First Mixed Range.

Type 1*a* is the main vehicle for steep retouch in the First Mixed Range and in Phase C but is definitely on the wane in Phase E. Proportionately, even more of the sickle blades fall into this group in the First Mixed Range than in Phase C. In the First Mixed Range in addition to the trapezoids there are a fair number of curved-over attenuated lunate-like examples—a feature common in Phase C but very rare in Phase E. The triangular variety,[13] noted by Mrs. Payne (see p. 531), is perplexing. Only one of this type was found in Phase C, and three examples were found in Phase E (all with one diagonal end and fairly broad at the other end and so included in Table II as trapezoids). The triangular variety may have been a special variation used on Judaidah, perhaps beginning in Phase C and lasting on through E. If it was commonly used in the earlier part of Phase C on Kurdu, it seems likely that at least a few more examples would have turned up in the materials of later C which were brought home for study. A large enough bulk of Phase E flints was found to enable one to say that the triangular variety is extremely rare in Phase E on Kurdu. The idea for the Kurdu examples may have been taken over as a result of contact with Judaidah or may be accidental.

A feature that does not appear clearly in Table II is that on Kurdu over half of the sickle blades of Phase C have one diagonal end while in Phase E the figure decreases to between one-third and one-quarter. Well over half of the sickle blades found in the First Mixed Range have one diagonal end.

Thus from the materials at hand it looks very much as though the bulk of the sickle blades of the First Mixed Range belong to a Phase C flint industry—perhaps to an earlier aspect of Phase C than that represented by the other Phase C flints described in this volume.

GROUND STONE OBJECTS

Rubbing(?) Stones

These three disklike objects are of limestone. The upper and lower surfaces are ground, and the edge is chipped all around. The main chipping was done from the upper surface, but in one example (Fig. 95) a few flakes were also removed from the edge of the lower surface to level it off. The lower surface in this example is somewhat concave, not flat as in the other two (x5162–63), which are somewhat smaller (d. 49, t. 11 mm.). These objects should probably be considered as belonging to Phase B, for none occur in later phases.

Vessels

Ten fragments and one whole vessel were found. Careful workmanship is apparent in all the examples, and all except two (Fig. 96:1–2) are slightly polished. The forms represented are mainly simple and fairly shallow, all round in plan.

[13] Four of the triangular specimens are straight-ended as in Fig. 94:6–7 but are included with type 1*a* for want of a better classification. Two other examples, if they were narrower, would fit in perfectly with type 1*b*, for the diagonal end is rounded into the back.

A large thick platter-like form with rounded lip and flattened base (Fig. 96:1) is not indicative of any one phase. Another thick platter-like form (Fig. 96:2) is the only early ᶜAmuq example of a splayed rim in stone. A smaller, saucer-like, version of No. 1 also has a flattened base and rounded lip (Fig. 96:3). A tiny shallow dish with rounded lip (Fig. 96:4) has a slightly concave side with marked changes in plane below the rim and at the base, which was probably rounded. The only comparable example is found in Phase D (Fig. 134:1). Two small cuplike

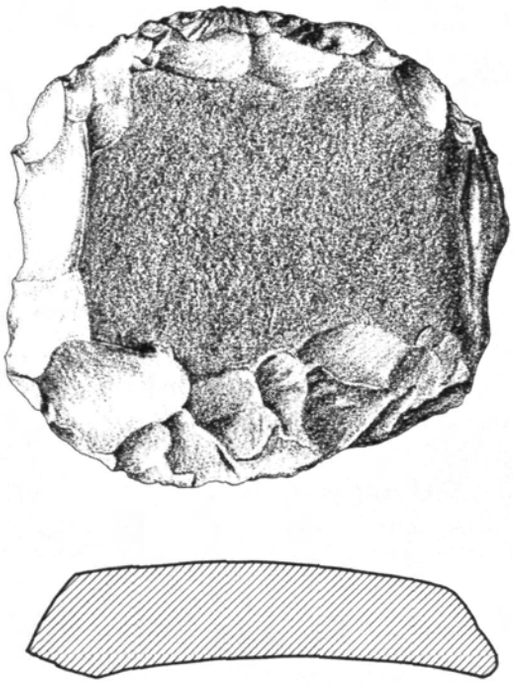

FIG. 95.—FIRST MIXED RANGE. RUBBING(?) STONE (x5126). ACTUAL SIZE

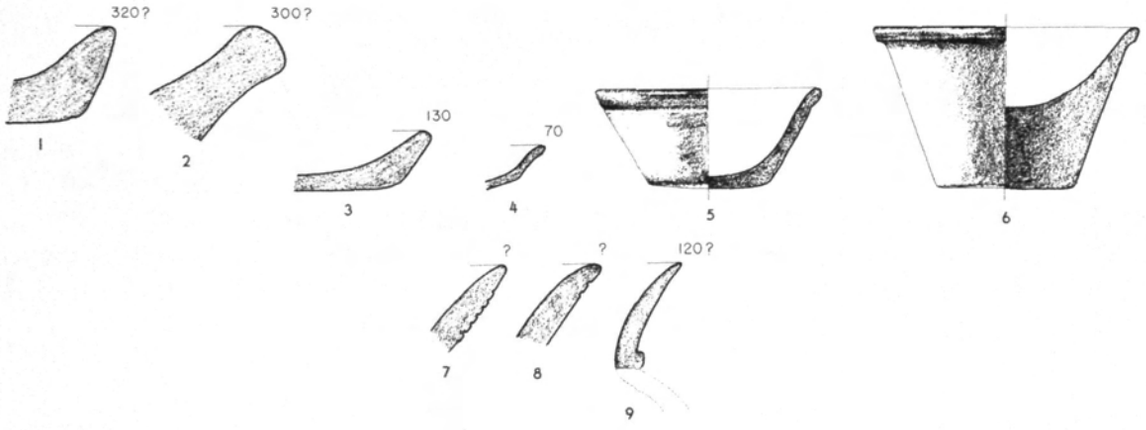

FIG. 96.—FIRST MIXED RANGE. STONE VESSELS. SCALE, 1:3

bowls (Fig. 96:5–6, Pl. 67:8) are flat-based, with straight side, rounded lip, and a raised band on the outer rim. The base of No. 6 is extremely thick. There are no certainly comparable examples, but No. 5 formed part of the *Beigaben* of burial x S 20, which is dated by ceramic evidence to late Phase B or early Phase C (see p. 136). A fragment of a seemingly large deep bowl with rounded lip is decorated on the outer surface with six narrow bands defined by shallow incised grooves (Fig. 96:7). Another fragment which seems to be a portion of a large

deep bowl has a slightly outcurved rim with rounded lip (Fig. 96:8). It is decorated directly below the outer rim with one narrow band defined by shallow incised grooves. Such decorative bands are known in Phase F (Fig. 187:1, 3). A fragment of a fairly large collared jar with thin rounded lip (Fig. 96:9) has its only counterpart in Phase E (Fig. 162:14). Corresponding ceramic forms, however, are found in Phases B–E. Two fragments (x3937, x4179) are too small to be reconstructed; one (x4179) is very thick (17 mm.), with well ground surfaces, and may represent a large bowl.

Celts

The nine tools are all ground and polished, and the majority are carefully shaped. Most of them are of amphibole rock (see p. 131), and all are either medium-sized or small tools. None can be assigned with certainty to any one of the phases represented in the First Mixed Range.

Three of the medium-sized celts are axlike (Fig. 97:1–2), and the fourth is a double-ended tool which combines the features of an ax and an adz (Fig. 97:3). The average dimensions are 55 × 35 × 15 mm. One ax (Fig. 97:2) is oval in transverse section and somewhat triangular in plan. The working edge is slightly convex and dulled by hard usage. Both faces are symmetrically ground and slope gently toward the working edge with no marked change in plane. The butt is rounded off but is fairly rough. The only polished portions are near the working edge on both faces. The other two axes are rectangular in transverse section. One (x4021) is more triangular in plan than the other (Fig. 97:1) and has a squared instead of a rounded butt. The working edge in each case is fairly sharp and slightly convex. The beveling is asymmetrical (more nearly symmetrical in x4021) and only faintly visible. The double-ended tool (Fig. 97:3) has no marked change in plane or beveling. At the axlike end, both faces slope equally to a sharp working edge. At the other end, one face slopes abruptly to an adzlike edge. This convex edge is sharp despite hard usage.

There are five small tools, which tend to have a higher polish than the medium-sized ones. The working edges show definite signs of use. Three of these are axlike (Fig. 97:4–5) and two are chisel-like (Fig. 97:6). One ax (Fig. 97:4) has a fairly sharp though worn edge. One face slopes abruptly to the working edge without any marked change in plane. The other face (see drawing) is perceptibly beveled at the working edge. The other two axes have sharp straight edges and well defined asymmetrical beveling. The upper end of one (Fig. 97:5) was broken in antiquity, but, from the present tapering of the faces at this end, it seems likely that it too was sharp-edged. The third ax (x3899; 38 × 18 × 8 mm.) is more triangular in plan than No. 5. The transverse section is rectangular. Though the oblique working edge and the lower end are well shaped, the butt end is only roughly blocked out. The two chisels have much narrower working edges than the axes. They are rectangular in section and plan. The butt ends are squared. Both faces of one (Fig. 97:6) taper off to the working edge, which is fairly sharp and slightly convex, with no perceptible beveling. The other chisel (x4113) is fragmentary (l. 35, w. 14, t. 13 mm.); the working edge is missing.

Pounder

A large celt (adz?) was reused as a double-ended pounder (Fig. 98:1). Both ends are convex and battered. The object is well shaped by grinding but not polished. One face slopes steeply, without any perceptible beveling, to the broader working edge. The other face slopes very slightly to the same working edge. This object cannot be assigned to any specific phase.

Whorls

Three of the four whorls are disklike with rounded edge and biconical perforation, but one (Fig. 98:2) is more carefully shaped and has a better finish than the other two. It is also the smallest; the largest measures 53 × 9 mm. This type of whorl is not confined to any one of

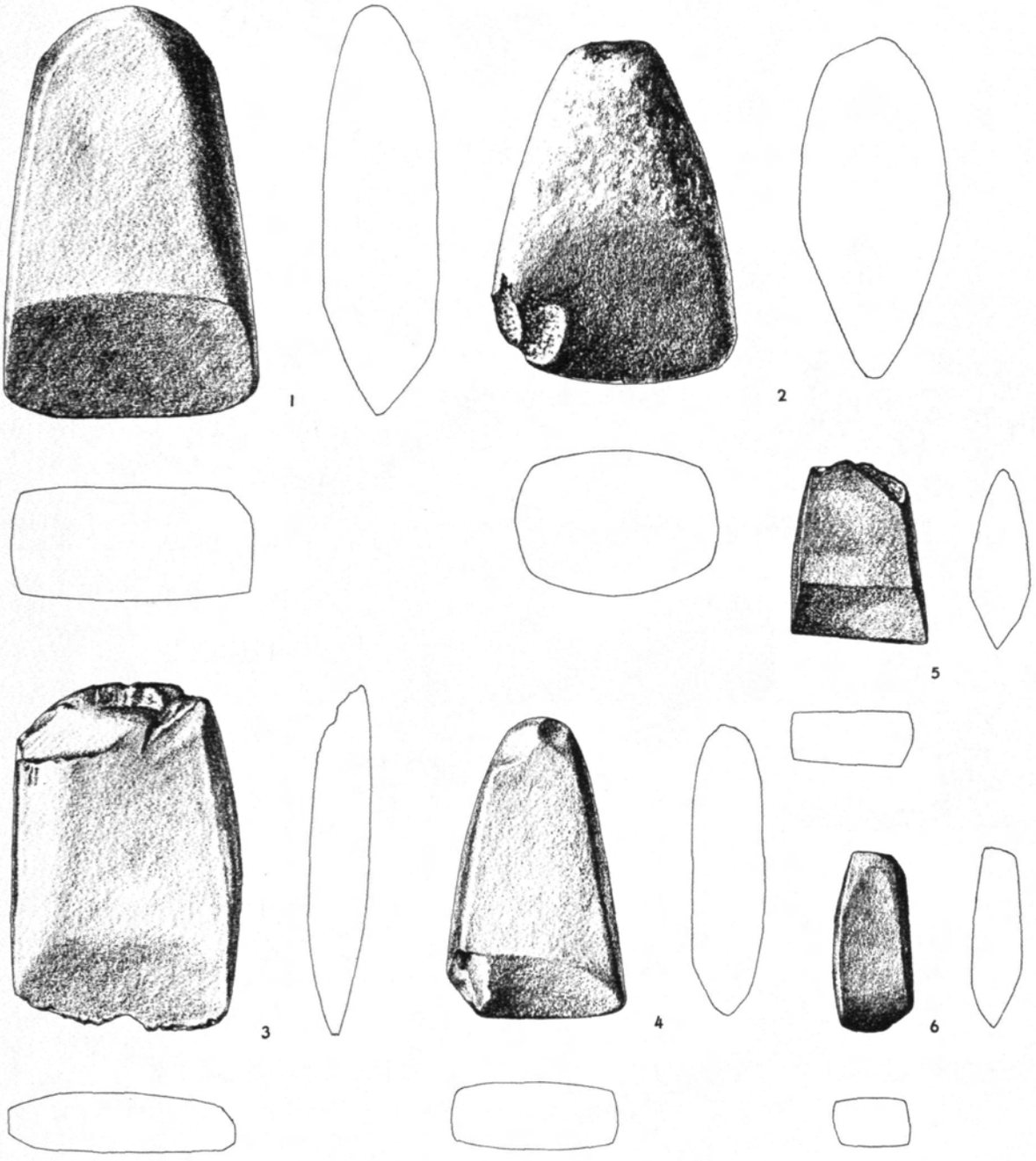

FIG. 97.—FIRST MIXED RANGE. CELTS. ACTUAL SIZE

the phases represented in the First Mixed Range. The fourth specimen, a hemispheroidal type (Fig. 98:3, Pl. 69:9), is atypical for the early ʿAmuq. A similarly shaped clay whorl (D 68) was found at Dhahab and could therefore come from Phase A, F, H, or possibly G. If this shape is limited to one phase, that phase would presumably be F, the only one represented both in the First Mixed Range and on Dhahab.

POLISHER?

This fragmentary object (Fig. 98:4) was originally probably oval in plan and hemispherical in transverse section. Most of the surface is roughly pecked but not ground. The only polished

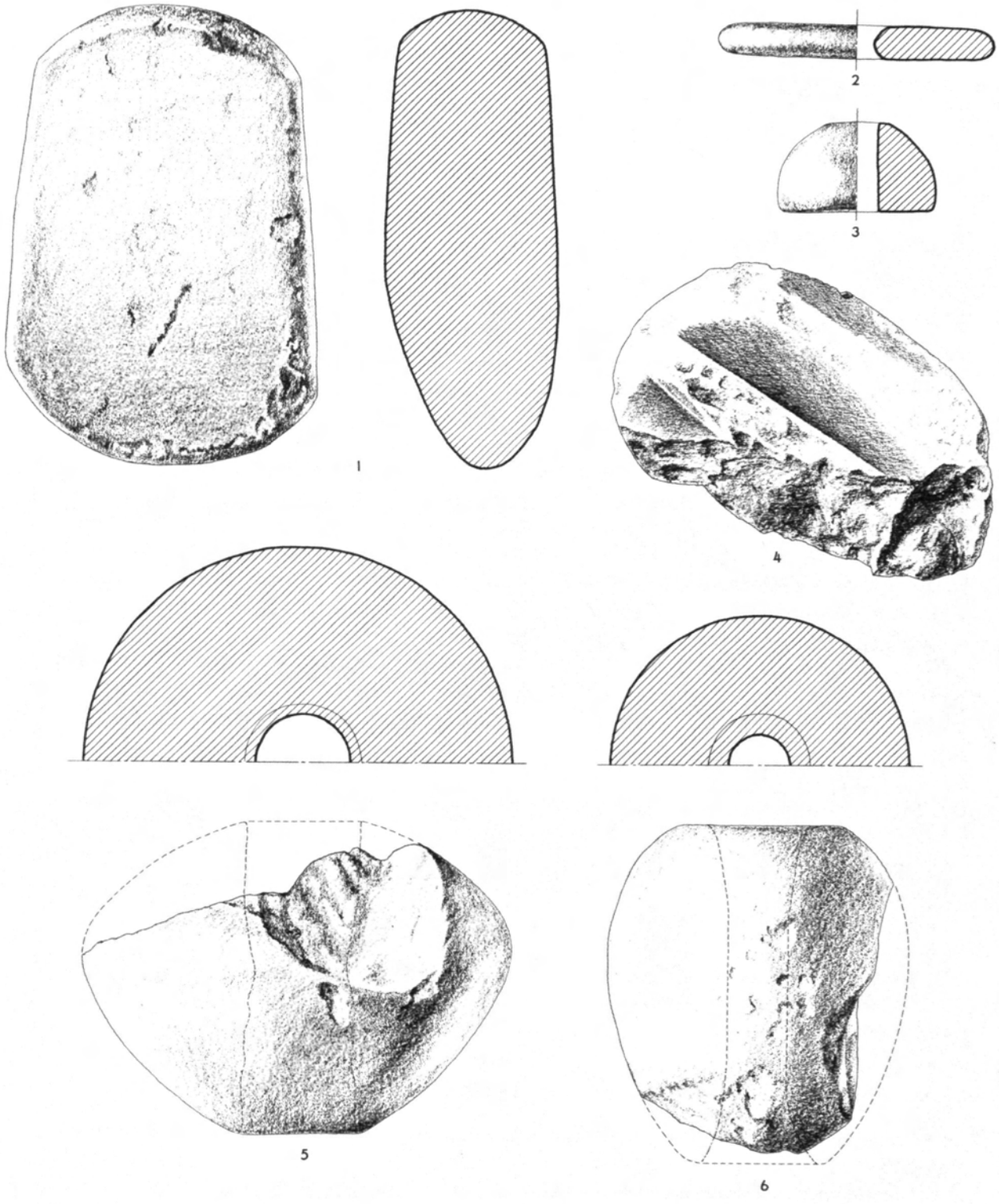

FIG. 98.—FIRST MIXED RANGE. GROUND STONE OBJECTS. ACTUAL SIZE

portions are the remnants of three broad (gr. w. 10 mm.) shallow grooves on the upper surface. No similar object is known from the phases represented in the First Mixed Range.

Maceheads

Both examples are of limestone. One (Fig. 98:6) is roughly spherical in shape, tapering slightly toward the lower end. The upper end is slightly flattened near the perforation. The surface is carelessly finished, roughly ground but not polished. The other macehead (Fig. 98:5) is more elegant in form and finish. It is of compressed pear shape. The surface is smoothly ground and polished. Unfortunately it is impossible to assign these maceheads to definite phases. The only maceheads found in phases represented in the First Mixed Range are an ovoid one from Phase B (Fig. 65:11) and a small one (or whorl?) from Phase E (Fig. 165:5).

Unclassified Objects

A well ground and polished object (Fig. 99:1) has both ends squared off. The longer edges are tapered so that they are thin but blunt; only a small portion of one of these edges has any

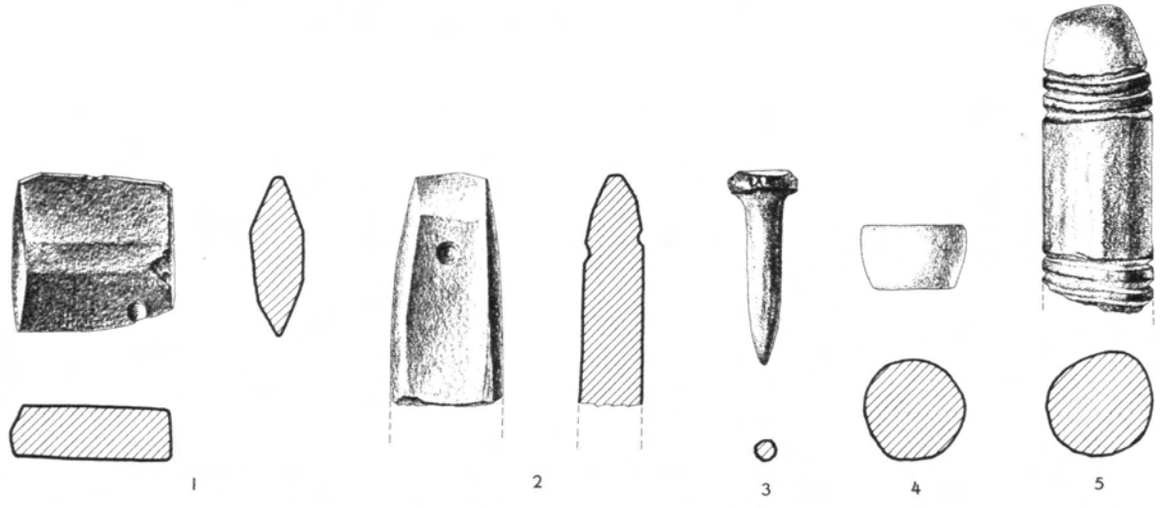

Fig. 99.—First Mixed Range. Unclassified Ground Stone Objects. Actual Size

degree of sharpness. The function is unknown. An object with rectangular transverse section (Fig. 99:2) tapers to a narrow but blunt edge at the upper end. The entire surface, except the lower end, is ground and shows some polish. The lower end is not smooth but does show bits of polish (probably from use) on the higher areas. Two attempts at perforation were made, both near the upper end (but not equidistant from it) on opposing faces. The object may have been intended as a pendant; or it may originally have been intended as a celt with the upper end to serve as the working edge. A nail-like object (Fig. 99:3, Pl. 71:25) has a flattened circular head and sharply pointed end. Similarly shaped clay objects are found in the First Mixed Range (Fig. 92:9) and in Phase E (Fig. 160:18). A truncated cone of marble (Fig. 99:4) is carefully made. It is the only one of its kind found in the excavations. Two possible uses would be as a "stud" or as a game piece. A unique cylindrical object is broken at one end and rounded at the other (Fig. 99:5). It is decorated at each end with narrow grooves which set two bands in relief. An unfinished object (Pl. 71:24), very likely intended as a stamp seal, is roughly hemispherical in elevation. The base is round in plan and smoothly ground and polished. The upper mass is roughly shaped by grinding but still shows several planes. Apparently the intention was first to perforate the object (slightly above and parallel to the base) and then to shape the upper part, probably into a smooth curve. The per-

foration, however, was never completed. A boring begun from one side extends inward for almost half the diameter; attempts to bore from the opposite side, in two contiguous spots, were given up.

With the exception of the "nail" (Fig. 99:3) there are no parallels for the unclassified objects in the early phases, and thus they may belong to any of the phases represented in the First Mixed Range.

Beads

Seven[14] isolated beads were found in addition to a group of fifty-two (x4916) from burial x S 20, attributed on the basis of ceramic evidence to late Phase B or early Phase C (see p. 136), and a "string" of fifty-three beads (x4171) from JK 3:23 fl. There are no elaborate forms, the prevailing types being very small and disklike.

Two disklike beads have flattened ends, somewhat rounded side, and small perforation (Fig. 100:1). This type, in the same material (kaolin), is found earliest in Phase F context (Fig. 190:2) but continues in later phases. It is usually very small; the First Mixed Range example which is not illustrated (x4026) is two-thirds the size of the other one. Forty-nine of the fifty-three beads in the "string" are made of obsidian and are disklike with carinated side and large double-bored perforation (Fig. 100:2). There are slight variations in diameter and length (average size: d. 6, l. 2 mm.). This type of bead has its counterpart in shape, size, and material in one example from Phase F (Fig. 190:5); an example from Phase E is much larger (Fig. 166:2). The other four beads in the "string" have flat ends, slightly convex side, and large perforation (Fig. 100:3). Of the fifty-two beads from burial x S 20, forty-four are made of olivine—a pale green translucent stone—and are disklike, with flat ends, convex side, and double-bored perforation (Fig. 100:6). They are carelessly shaped, but an attempt was made to achieve a circular plan. They are fairly uniform in size (average: d. 5, l. 2 mm.), but one is larger (d. 8, l. 4 mm.) than the others. Six disklike beads from the burial are of carnelian and slightly better shaped (Fig. 100:7) but leave much to be desired as regards smoothness of finish. The side is slightly convex; the ends are mainly concave, sloping to the single-bored perforation. These average 6 mm. in diameter and 2 mm. in length.

A single mottled bluish-green bead from the burial (Fig. 100:8) is barrel-shaped, with single-bored perforation. Two of the isolated beads are simple small flat-ended barrels (Fig. 100:4). Another long bead (Fig. 100:5) is slightly more distinctive, with concave ends, convex side, and large double-bored perforation. It is flattened and has an oval transverse section. A somewhat similar form is found in Phase B (Fig. 67:6), and more closely comparable examples occur in Phase E (Fig. 166:11–12), though one of the latter has more exaggerated incurved ends. A flattened carnelian bead from the burial has convex side and diamond-shaped section (Fig. 100:9). No closely similar shape occurs in any of the phases represented in the First Mixed Range.

Two small bits of chalcedony with some grinding and boring (x4025 and x4178) are certainly portions of beads but are too fragmentary to give any indication as to shape.

Pendants

Eight pendants of stone come from the First Mixed Range.[15] Four (Fig. 100:12, 13, 15 and Pl. 71:1) are made of low metamorphic schist, which is not used for beads or pendants in any of the early phases. Slabs of this material found near burials x S 18–19 (see pp. 135–36) or a slab found in a room of Phase F (see pp. 227 f.) may be the source of the material used for these four pendants.

[14] Not including an uncatalogued bead (x4028) registered as of blue stone. See p. 133 for a probable bone bead and p. 135 for a shell bead or pendant.

[15] See p. 118 for three clay objects which may be pendants and p. 135 for a shell bead or pendant.

Two pendants are probably pebbles which were used without much shaping, one oval (Fig. 100:10) and the other somewhat triangular (Fig. 100:11). Another pendant is apparently an imitation of a celt with rectangular transverse section (Fig. 100:12), but it was not functional. Celt pendants first appear in Phase G. An incomplete pendant (Fig. 100:13) cannot be reconstructed. It is rectangular in transverse section. The end above the perforation is very sharp and slightly nicked, perhaps from use for scraping. The entire surface of an irregularly shaped pendant (Fig. 100:14) is insufficiently ground, especially near the lower end, where many irregular facets or planes give a somewhat hexagonal transverse section. The upper end is tapered to a very fine edge. Two pendants have two perforations near one edge. One (Fig. 100:15) is ground at the edges, but the main surfaces are fairly rough. The other (Pl. 71:1) is rectangular in plan and section (t. 3 mm.). The entire surface, including the edges, is smoothly ground. One pendant probably represents a bird head (Pl. 70:16). By accident it was not catalogued, and the only information we have about it other than the photograph (looking directly down on the top of the head) is that it is made of grayish stone.

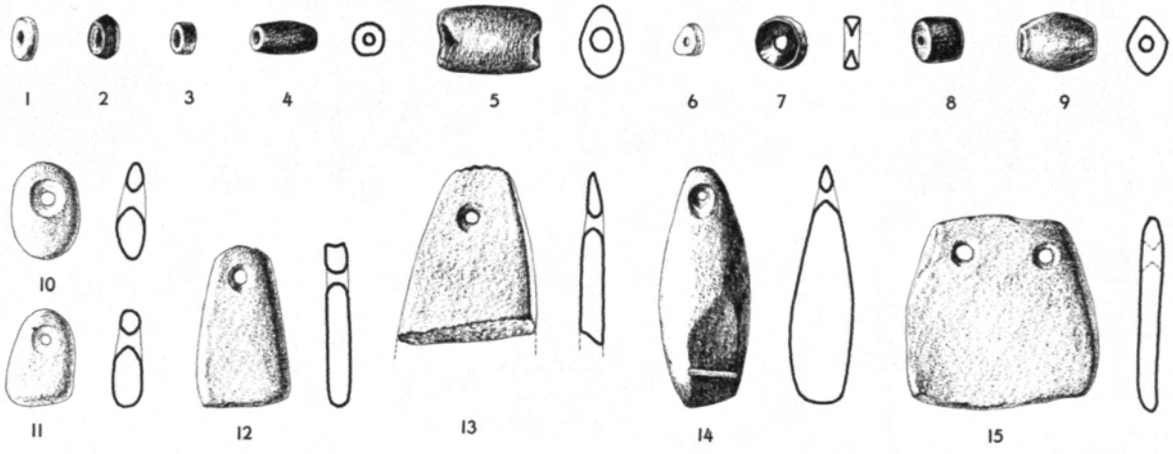

FIG. 100.—FIRST MIXED RANGE. STONE BEADS AND PENDANTS. ACTUAL SIZE

The ends of the perforation serve as eyes, and the small appendage (at top in photo) represents the beak. Short incisions, which probably emphasize the beaklike character, can be seen on the appendage.

STAMP SEALS

Six stamp seals of stone[16] were found. A large flat seal with ridge handle, asymmetrical base, and incised crosshatched decoration (Fig. 101:1) is broken. This type of seal is found in Phase A (Fig. 37:1, 5). Although the shape does not occur in Phase B, one of the two seals found in B context bears incised crosshatching (see Fig. 68:1), and this asymmetrical shape may well have continued into Phase B.

The rest of the First Mixed Range seals are small. One, with broad high ridge handle, has a carefully executed design formed by three groups of parallel incised lines (Fig. 101:2). This design is fairly close to that on the other Phase B seal (Fig. 68:2). The latter, however, has a fourth group of parallel lines and thus is more complicated in design. The incised design on another seal with high ridge handle and oval base (Fig. 101:3) consists of quadrants with fill in each. Phase F is the most probable period of manufacture. Filled quadrants are first found in Phase E (Fig. 167:5), are present in Phase F (Fig. 191:4–5), and are common in Phase G (Fig. 253:4–7); one such design was found in Phase H context but may be a survival from Phase E (see p. 387 and Fig. 297:2).

[16] See p. 133 and Fig. 101:4 for a bone stamp seal.

Two seals (Fig. 101:5–6) show use of the drill in their designs. No. 5, with a slight ridge handle, has a convex base that is triangular in plan.[17] A shallow drilled depression forms the center of the incised design. No. 6 is hemispheroidal in elevation; the base is oval in plan, with the broader sides slightly concave. The design consists of six shallow drilled depressions. Seals with drilled depressions as part of their decoration do not occur in clear context earlier than Phase G. However, one Phase E seal has four holes drilled through its base as part of its design (Fig. 167:3). Since Phase G is not represented in the First Mixed Range, these two seals are perhaps to be assigned to Phase F or even to Phase E.

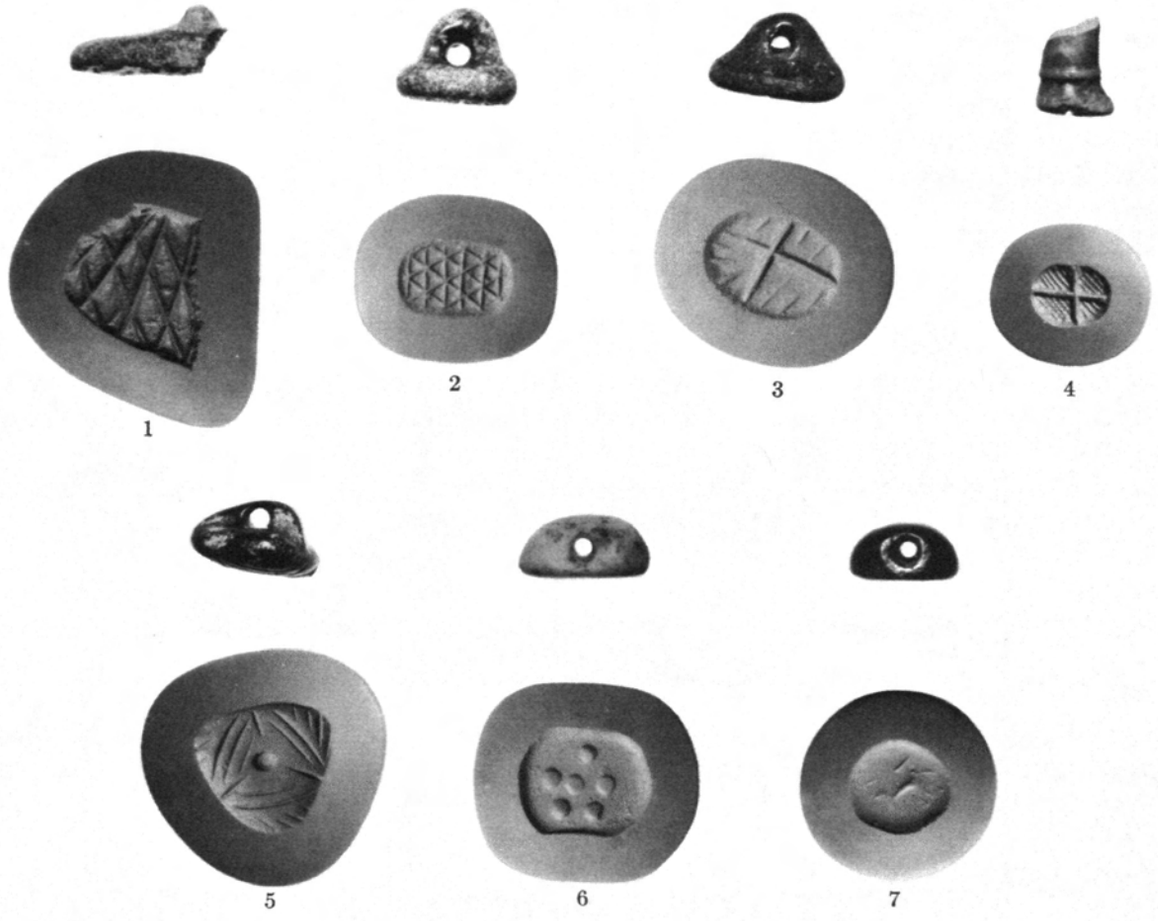

FIG. 101.—FIRST MIXED RANGE. STAMP SEALS OF STONE (*1–3, 5–7*) AND IVORY OR HORN (*4*). ACTUAL SIZE

What remains of the design on a hemispherical seal with very worn base (Fig. 101:7) seems to indicate the body, head, and hind legs of an animal (perhaps horned?). Two incisions above the body are space-fillers. The shape of the seal and the representational design suggest that it may possibly be assigned to Phase F (cf. Fig. 191).

"STUDS"

The two examples, both of calcite, are similar in shape and size (Fig. 102, Pl. 71:14). The shafts are convex and have blunt points. These "studs," although slightly larger, are of the same type as a Phase B example (Fig. 69:1).

[17] A ridge-handled seal with triangular base was found in the Wadi al-Hammam cave (see p. 18 and *Man* XXXIII, No. 182, Fig. 4:3) at a level which yielded Phase A pottery. The design is not identical to that of our seal but has a dot in the center, which probably represents a round depression of some sort. It would be interesting, in view of the early date of the seal, to know whether the dot is actually a drill hole.

Stone Identifications

RUBBING(?) STONES

x5126 limestone (Fig. 95)
x5162–63 limestone

VESSELS

x3937 greenstone, almost monomineralic chloritic
x3962 greenstone, almost monomineralic chloritic (Fig. 96:6, Pl. 67:8)
x4019 greenstone, almost monomineralic chloritic ((Fig. 96:4)
x4179 probably weathered chlorite-rich greenstone
x4209 contains some calcite; not identified (Fig. 96:7)
x4914 greenstone, almost monomineralic chloritic (Fig. 96:5)
x5080 chalk (Fig. 96:1)
x5081 impure limestone (Fig. 96:2)
x5084 greenstone, almost monomineralic chloritic (Fig. 96:9)
x5085 weathered rusty chlorite-rich rock (Fig. 96:3)
x5086 chlorite-rich greenstone (Fig. 96:8)

Fig. 102.—First Mixed Range. Stone "Stud" (x4030). Actual Size

MEDIUM-SIZED CELTS

x4021 magnesium-rich amphibole rock containing two types of amphibole, one fibrous and one less fibrous
x4022 melaphyre (macroscopic) (Fig. 97:2)
x4111 weathered fibrous mineral (probably a serpentine) (Fig. 97:3)
x4211 weathered magnesium-rich fibrous amphibole (Fig. 97:1)

SMALL CELTS

x3899 magnesium-rich tremolitic amphibole
x4112 anthophyllite rock with some calcite, $n_a = 1.608$, extinction parallel (Fig. 97:5)
x4113 magnesium-rich fibrous amphibole, $n_a = 1.610$
x4180 banded rhyolitic tuff (Fig. 97:4)
x4212 probably nephrite (Fig. 97:6)

POUNDER

x5089 metadolerite (low metamorphic gabbroid rock) (Fig. 98:1)

WHORLS

x4110 weathered stone; not identified (Fig. 98:3, Pl. 69:9)
x4210 impure brown limestone

x5079 impure limestone (Fig. 98:2)
x5087 not identified

POLISHER?

x3903 magnesium-rich amphibole, n_α = *ca.* 1.612 (Fig. 98:4)

MACEHEADS

x4167 gray limestone (Fig. 98:6)
x4168 limestone (Fig. 98:5)

UNCLASSIFIED OBJECTS

x3880 weathered rusty calcite-rich greenstone (Fig. 99:3, Pl. 71:25)
x3881 weathered stone; not identified (Fig. 99:2)
x3935 weathered soft red rock; not identified (Pl. 71:24)
x4020 marble (Fig. 99:4)
x4023 translucent green silicified rock showing banding and concentric structures (Fig. 99:1)
x4127 greenstone, almost monomineralic chloritic (Fig. 99:5)

BEADS

x3931 weathered soft red rock; not identified (cf. Fig. 100:4)
x3932 weathered soft red rock; not identied (Fig. 100:4)
x3961 gibbsite, n_β = 1.560 (Fig. 100:5)
x4025 chalcedony
x4026 kaolin (cf. Fig. 100:1)
x4027 kaolin (Fig. 100:1)
x4171 49 rhyolitic obsidian (e.g. Fig. 100:2)
3 soapstone (e.g. Fig. 100:3)
1 weathered soft red stone; not identified (cf. Fig. 100:3)
x4178 chalcedony
x4916 44 olivine (e.g. Fig. 100:6)
7 carnelian (e.g. Fig. 100:7, 9)
1 green stone; not identified (Fig. 100:8)

PENDANTS

x3877 slate with sericite (low metamorphic schist) (Fig. 100:15)
x3933 in Antioch Museum; material (grayish stone) not analyzed (Pl. 70:16)
x3959 phyllite (low metamorphic) schist (Pl. 71:1)
x3960 slate (low metamorphic schist) (Fig. 100:13)
x4005 weathered low metamorphic schist (Fig. 100:12)
x4006 limestone (Fig. 100:10)
x4029 fine-grained stone; not identified (Fig. 100:11)
x4177 probably serpentine-amphibole rock (Fig. 100:14)

STAMP SEALS

x3872 weathered soft red stone; not identified (Fig. 101:7)
x3900 in Antioch Museum; material not analyzed (Fig. 101:1)
x3958 soapstone (Fig. 101:3)
x4000 greenstone containing chlorite and talc (Fig. 101:2)
x4130 marble (Fig. 101:6)
x4216 soapstone (Fig. 101:5)

"STUDS"

x3876 calcite
x4030 calcite (Fig. 102, Pl. 71:14)

WORKED BONE OBJECTS

Among the eighteen bone artifacts found in the First Mixed Range the few bones that were identified represent gazelle (Pl. 76:3), goat (x4213), and elephant (Fig. 103:5). Most common are awls (almost half the total number), as in Phases A–B. A few unusual bone objects also were found.

Six awls are made on metapodials split lengthwise, with half the articular surface preserved as butt. Their lengths range from 49 to 90 mm. Two examples are on the proximal end (Fig. 103:1). Two splinter awls (Fig. 103:2 and Pl. 72:11) have carefully worked points. The heads are slightly rounded off, but the rest of the surfaces are not worked.

A fragment of a well made needle (Fig. 103:3, Pl. 74:19) has a gouge made lengthwise in each face of the head. The eye is a small hole, cut from each face, in the center of the gouges.

The use of two long and slender objects is unknown. One (Pl. 75:3), made on a metapodial, is rectangular in section with only a slight trace of the original concavity along the length; both ends are broken off. The other (Pl. 73:4) is more or less trapezoidal in section, and some of the surface is undoubtedly natural. One end is merely squared off; the other is broken away. Both specimens show polish over the entire surface.

A solid bone from a skull is roughly formed into a more or less triangular shape (Pl. 73:13). The missing fragment (upper left) probably consisted of a point. All edges are fairly sharp. The points, though blunt, show polish from use.

An object formed on a rib (Pl. 75:5) has one smoothly ground surface; the other surface consists of cancellous tissue. The upper end is broken off. The other edges have some grinding but are thick and dull except for the short section (lower left) beginning at the concavity and extending to the point. Here the edge is beveled so that it is sharp. The point is likewise very sharp. Thus this portion of the object, that is, the concave edge and the point, was probably used in some knifelike capacity. Another tool made on a rib has both ends missing (Pl. 75:4). Both edges are ground and squared off so that the section is rectangular. All surfaces show polish. The broken ends were probably the functional parts of the object.

One tube was found (Fig. 103:4, Pl. 76:9), perhaps made from a gazelle femur. The ends show that the object was made by sawing through the original bone almost to the center in two places. The desired portion was then broken off, and the ends (both sawed and broken edges) were smoothed by grinding. All the outer surface is polished. The object seems too small for a container. Though a trifle large, it was probably used as a bead.

A stamp seal (Fig. 101:4) made of either ivory or horn is unusual, for it seems to represent the leg and hoof of an animal. There is no perforation, but the missing upper part may have been pierced. The seal was reused in its present state to judge by polish at the broken end. It could have been suspended by means of a cord tied between the base and the ridge on the shaft. The incised decoration on the oval base consists of two hatched and two crosshatched quadrants. The seal was probably associated with burial x S 18 (see p. 135).

A rectangular "palette" with slightly rounded corners is made from an elephant tusk (Fig. 103:5). Both surfaces are carefully smoothed. The outer surface received more careful treatment than the inner, for it is slightly beveled at both ends to form straight dull edges. The two long edges are straight and fairly sharp. The slightly concave inner surface has bits of cancellous tissue exposed mainly at the upper end, which has a double-bored perforation. Although termed a "palette" because of its shape, the object shows no traces of coloring matter. It is from burial x S 20 (see p. 136 and Pl. 79 *G–H*).

Finally, there is a fragment decorated with a series of short incised lines (Pl. 76:3). The incised surface (other surface missing) is polished from use. Whether the object represents a tool or was merely decorative cannot be said.

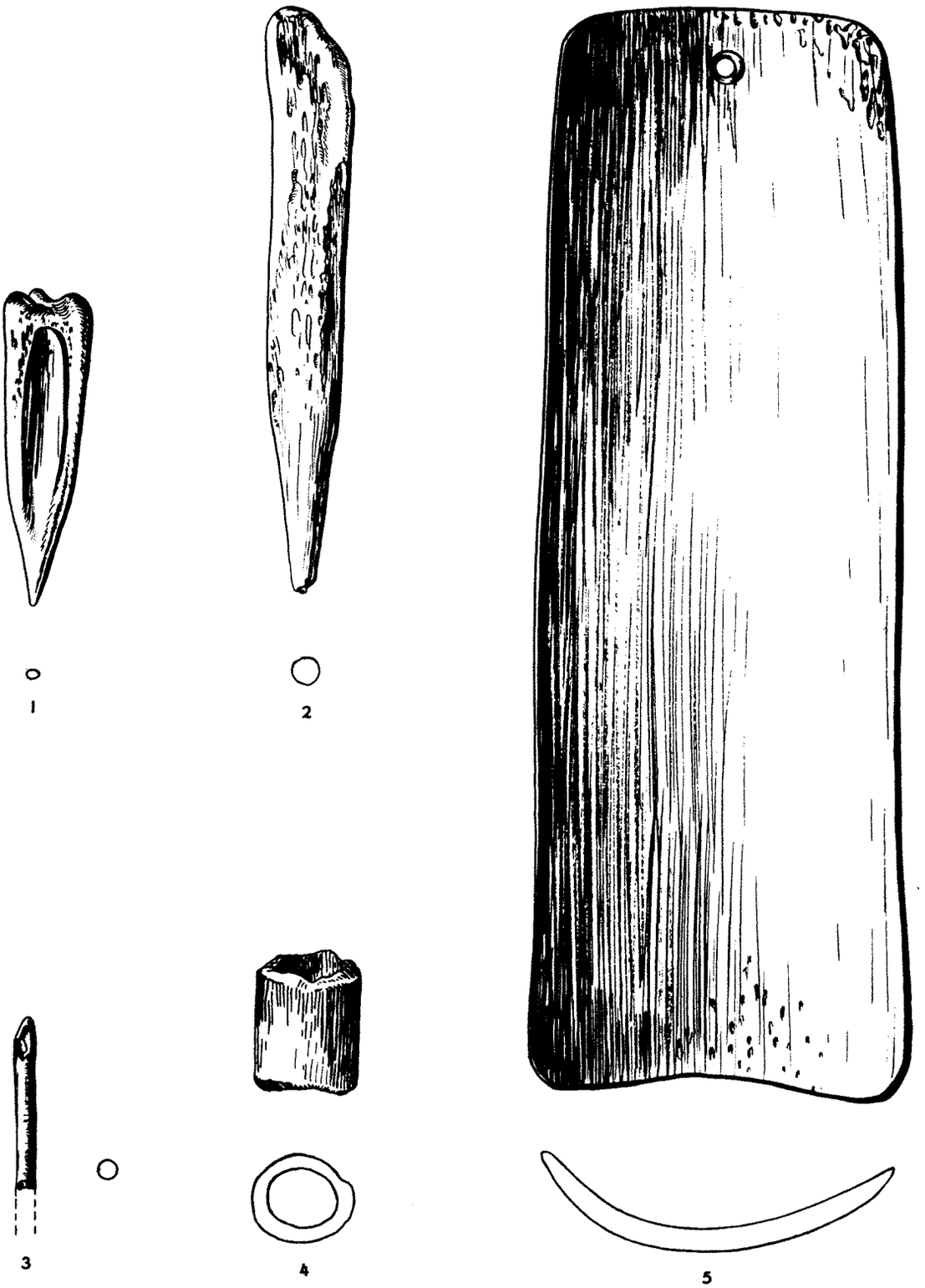

FIG. 103.—FIRST MIXED RANGE. WORKED BONE OBJECTS. ACTUAL SIZE

It is difficult to assign any of these bone objects to a specific phase. Awls with articular handles are found in each of the phases represented in the First Mixed Range. They are, however, rare in Phase F. Needles (except the uncatalogued Phase B fragment mentioned on p. 97, n. 9) are not found prior to Phase G, and even those of Phase G have broader heads (cf. Fig. 256:12). However, perforated blades are present in Phase E, and slender shafted pins make their appearance in Phase F. No other small plain tubes happened to appear in the excavations, but a tiny decorated tube occurs in Phase A (Fig. 30:9). The stamp seal (Fig. 101:4) is closer in design to a Phase E stone seal (Fig. 167:5) than to any of the seals from other phases. In both examples the quadrants are entirely filled in. On the other hand, few unusual bone objects were found in Phase E but quite a few handsome bone objects, including seals, were found in Phase F. The "palette" is the sole example of its kind. Fortunately it comes from burial x S 20, which can be dated by a pattern-burnished jar to late Phase B or early Phase C (see p. 136).

SHELL BEAD OR PENDANT

The only other worked material represented is shell—a thin bead or pendant with scalloped edge and two perforations (Fig. 104, Pl. 78:9). Unworked shells, though not abundant, were found in almost all the early phases. The only other early examples of worked shell are a small ring bead of Phase B (Pl. 78:2) and a pendant of Phase F (Fig. 194). We do not know where to place the First Mixed Range example.

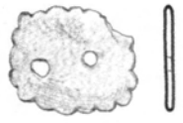

FIG. 104.—FIRST MIXED RANGE. SHELL BEAD OR PENDANT (x3879). ACTUAL SIZE

BURIALS

A pair of open burials (x S 18–19) occurred in close association under a *libn* wall of floor 22 near the east face of the JK 3 cut (see Fig. 72). It seems likely that the burials were put down sometime before the wall was founded (see p. 101). Both were very fragmentary. Near by, but apparently in no way associated, was a group of Dark-faced Burnished Ware pots (Fig. 81:1 and x4911–12) and several odd fragments of slatelike slabs (see p. 136).

Burial x S 18 (at left in Pl. 79 *D*) was of a juvenile. The skeleton seemed to be partially disarticulated (perhaps as a result of the founding of the *libn* wall of floor 22), and the lower portion lay to the east of the face of the cut. It was not completely exposed. The head rested on its right parietal bone; the faced looked roughly toward the northeast. The sacrum-to-atlas direction was probably *ca.* 45° west of south. The skull was not sent to Chicago, and no physical data are available. Under the skull, and probably associated with it, was a broken stamp seal of ivory or horn (see p. 133 and Fig. 101:4).

Burial x S 19 (at right in Pl. 79 *D*) was of a small child, abruptly flexed on its right side. The sacrum-to-atlas direction was *ca.* 60° east of north. The arms evidently extended below the pelvis; the knees were well up past a right angle with the trunk. The skull was not sent to Chicago, and there are no physical data. A squat Dark-faced Burnished Ware pot (Fig. 74:3), which appears as sherds in Plate 79 *D*, rested just above the right knee.

Burial x S 20 (Pl. 79 *G*[18]) was an open burial, probably of a juvenile. It was in the debris about halfway between floors 22 and 23 in the east central portion of the JK 3 cut (see Fig.

[18] Because we dug well below the level of the burial in the area all around it in an effort to allow it to dry out somewhat, this photograph gives the unfortunate impression that the burial is on a table of earth.

72). The body was flexed on its left side. The sacrum-to-atlas direction was *ca.* 85° east of north. The skull was badly crushed but evidently had rested on the occipital and left parietal. It was sent to Chicago but was too fragmentary to restore; the physical type is unknown. The elbows were in front of the chest, the hands brought up to the chin. The knees were folded almost high enough to touch the elbows. The individual was relatively well supplied with *Beigaben* (Pl. 79 *H*). A handsome pattern-burnished collared jar of Dark-faced Burnished Ware (Fig. 81:2) rested behind the top of the head. A group of fifty-two beads (x4916) occurred, especially under the left cheek (see p. 128 and Fig. 100:6–9). They possibly were worn in the hair, for when placed side by side they measure only 93 mm. in length. Originally there may have been more beads which were overlooked in excavation, since some of those found are so small. Or they may have been strung with beads of perishable materials. In front of the chin lay a long tabular piece of worked bone (Fig. 103:5), perhaps a palette (see p. 133). Next to the pelvis was a stone bowl (see p. 123 and Fig. 96:5).

There is little question but that the pots found with x S 19–20 are of a late Phase B or an early Phase C aspect of the Dark-faced Burnished Ware (see pp. 106 ff.). The other *Beigaben* are not critical for dating purposes, but none would seem out of place in late Phase B or early Phase C.

NONARTIFACTUAL MATERIALS

Mollusca

Psilunio littoralis semirugatus LAMARCK, a fluviatile form (6 fragments).

Vertebrata

Homo sapiens: x S 18–20, all too fragmentary for study (see above).

Mineral

Two specimens taken from large slabs of stone found near x S 18–19 (see p. 135) are low metamorphic schist containing felspar, chlorite, sericite, and quartz.

V

PHASE C

INTRODUCTION

PHASE C in "pure" form was found only on Kurdu; some of its ceramic materials at least were isolated typologically from the First Mixed Range on Judaidah. The Kurdu exposures were in trenches I and IV (see Figs. 13–14 and p. 18); together they totaled only 43 sq. m. Kurdu was dug without respect to floors. The depths involved were in trench I from 9.5 to 11.5 m. (where ground water but not virgin soil was reached) and in trench IV from 0.5 to 3.5 m. (where lack of time cut short the operation). Although the exposures were very restricted and the bulk of materials controlled was relatively minute, there was every indication of stratigraphic regularity and consistency of material.

Halaf influence on local ceramic products has already been felt long enough (i.e., by the makers of the earliest C sherds that we exposed) so that even the Dark-faced Burnished Ware now includes standard Halaf profiles. The arbitrary definition of the beginning of Phase C is that point at which Halaf influences first reach the valley. That point does not seem to be represented here, for on typological grounds our materials must refer to a later aspect. Thus (save in so far as sherds of typologically in-between stages can be offered from the First Mixed Range) the end of Phase B (see p. 68) and the beginning of Phase C are in all probability not represented in the materials we have exposed.

A completely new flint industry can be recognized in spite of the small number of flints available for study. The fact that the Phase C exposures were extremely limited does not in itself account for the incredibly small number of stone objects discussed in this section. Digging at Kurdu began toward the end of the season and continued after some of the expedition members had left camp (see p. 18, n. 15). Of the material dug in the last few days, only the pottery was saved and sent to Chicago for study. Thus the other objects from the lower Phase C depths (i.e., trench IV, 1.5–3.5 m.) are not known.

ARCHITECTURE

As noted above (p. 18), Kurdu was not excavated in a manner commensurate with reliable observation of architecture. Our examination of the trench faces, deep in trench I and in trench IV up to the time we left camp, revealed several floor lines and some localized blackened areas but no trace of walls. We are not, however, inclined to emphasize the latter observation, in view of the type of operation involved.

POTTERY

In view of the restricted areas exposed in the Phase C depths on Kurdu and the relatively small sherd sampling which resulted from them, one is gratified by the apparent consistency of the sherd bulk. But it cannot be denied that the ʿAmuq range from late Phase B into the beginning of Phase E needs the substantiation of a greater bulk of excavated material.

As already mentioned above, there is a probability that the Kurdu Phase C material refers to the middle or latter part of the phase only. This question can never be satisfactorily settled without further excavation. At present it is complicated by the fact that the Phase C material of Judaidah comes only from the First Mixed Range and by the additional question

of how much the variations in the Dark-faced Burnished Ware depend on a real time difference between the last stratigraphically fixed material on Judaidah (Phase B) and that on Kurdu and how much they depend on the positions of the two mounds with regard to clay sources.[1] Because of the short distance between the two sites (15 km.) over the open plain, we are not inclined to believe that there can have been much cultural variation between the original Phase C inhabitants of Judaidah and those of Kurdu.

Because of the above-mentioned difficulties, only part of the traits which significantly differentiate Phase C from Phase B can be established by actual observation, others being inferred from what the Judaidah Mixed Range material and the probably middle-to-late Phase C material from Kurdu seem to show. On this basis Phase C is defined by the following ceramic criteria:[2]

1. Disappearance of the Coarse Simple, Coarse Red-slipped, and Coarse Incised or Impressed Wares.
2. Continuation of Dark-faced Burnished Ware, but with significant changes in the addition of some new forms, the more general use of a slip, the generally increased thickness of body walls, the evident disappearance of impressed and incised decoration, and the decline of pattern burnish.
3. Continuation of Dark-faced Unburnished Ware, but with a well marked division into fire-blackened sherds (cooking pots) and buff-faced unslipped sherds (bowls, jars, etc.).
4. Disappearance of smaller classes such as Washed Impressed Ware, Brittle Painted Ware, etc.
5. Appearance in some quantity of a painted series, certainly local, but with many motifs and forms which may be seen in Halaf Painted Ware.
6. Appearance of a modest number of unmistakably Halaf sherds.

The pottery is described on the basis of a total selected field sampling of 563 sherds. There are also five restorable pots.

Dark-faced Burnished Ware
(35–40% of total selected sherd bulk)

The effect achieved in the fabrication here is essentially the same as that of Phases A–B on Judaidah, but certain details are different. The gross examination showed that the vessels were handmade and rather lightly fired, the paste color being normally orange-brown buff or orange-gray buff but varying from orange-buff to black. The inclusions are usually mineral, but some fine vegetable material is indicated by small holes, and there is also a certain amount of shell. The mineral inclusions are sparse to medium in concentration and fine to medium in size, a few very coarse inclusions probably being accidental. The fracture is generally irregular and rough. In general the paste is softer and more easily abraded than its Judaidah counterpart. Surface color varies from light orange-buff to dark gray in unburnished areas but tends to approach dark gray or even black in burnished areas (see Pl. 81:8), although medium gray or gray-brown is possible at the lightest end of the scale. About 20% of the sherds are red-orange, either lighter or darker (see Pl. 81:1), and these certainly all have ocherous slip. How many of the larger bulk of the gray-black sherds have true slip as against self-slip is impossible to say, perhaps not more than one-third. Burnishing may be well done but is generally horizontal, careless, and open. In certain cases it seems to be as much for decoration as for function, for example where it appears on the rim area only (e.g. Pl. 81:8).

[1] Matson is inclined to see the differences between the burnished ware clay at Judaidah and that at Kurdu as possibly the result of levigation at Kurdu but certainly also due to the choice of different paste types: *serpentine* at Kurdu and *actinolite* at Judaidah (see p. 139). The new forms at Kurdu do indicate a lapse of time since Phase B.

[2] See pp. 150 ff. concerning the marked change in flint tools.

Taken en masse the group looks even more coarse than its Phase B counterpart on Judaidah. This impression probably comes from the fact that the body walls are generally thicker, that edges, fractured or intact, tend to be more abraded, and that the surface, especially where it is not burnished, is somewhat softer and more porous, so that dirt adheres more readily, it being much more difficult to wash these sherds clean.

Dull surfaces and glossy ones, the two extremes, are common at Kurdu instead of the intermediate type that predominated at Judaidah. A good black surface is frequent, while a well developed red is scarce. The paste is much finer-textured than that of Judaidah and may have been levigated. Shell fragments occur in many sherds. Most of the thin sherds are of the *serpentine* type paste, but three are of the *actinolite* type typical of Judaidah and may represent vessels imported from that site. A slip at least 0.03 mm. thick occurs on most of the sherds. The presence of slip was checked not only in thin section but also by refiring broken-off chips and noting the color difference between slip and body that shows clearly when the clay is oxidized. The outer surfaces were intentionally blackened, either by a very smoky atmosphere in the last stages of firing or by application of an organic coating to the still hot pots when they were removed from the place of firing. One-third of the sherds show oxidation beneath the thin black layer, while most of the remainder are black or dark brown throughout. Two-thirds of the sherds have a good black surface, a ceramic trait much better developed at Kurdu than at Judaidah because of the use at Kurdu of a red clay slip that could easily be blackened.—MATSON.

The forms indicated by the sherds include five varieties of bowl profiles, which all together make up only *ca.* 38% of the sherds while the high-collared jars alone make up *ca.* 35%.

Straight-sided open bowls (Fig. 105:1–7) are common and are paralleled in the First Mixed Range (Fig. 74:1). The variant rim forms (Fig. 105:4–7) show a tendency to outroll or splay at the lip. A more vertical-sided rim sherd (No. 7) represents a form seen more usually in the Dark-faced Unburnished Ware of Phase C (cf. Fig. 112:4) and as early as Phase B (Fig. 52:4–6). There are cases where the burnish appears only on the rim area in the straight-sided bowl group (Fig. 105:3). A few bowl sherds show more or less sharp changes of plane outside (Fig. 105:8–10). Profiles essentially similar appear in Phase B (Fig. 43:9–14). Two other classes of bowls are fairly common, low hemispherical bowls with sharply incurved lips (Fig. 105:11–13; cf. Pl. 16:1, of Phase D) being somewhat less frequent than taller less sharply incurved vessels (Fig. 105:14–24). The first class seems always to have burnish all over the inner surface, but the outside is often not burnished far below the rim. Only two apparently characteristic variants appeared—a profile with marked thinning at the lip (No. 18) and one example (No. 24) with the so-called "wiped burnish" characteristic of Phase D (see p. 160). The taller more gently curved class must refer to the basic hemispherical bowl profiles so common in Phases A–B; neither the normal profile nor the variants shown here are essentially different. What is new is the general tendency to use burnish on the rim area alone (see Pls. 16:2 and 81:8). This trait of burnishing decoratively,[3] rather than rendering the functional surface smooth and compact, is reflected in almost all the forms of the Dark-faced Burnished Ware of Phase C at Kurdu, but on these bowls it finds its most characteristic expression. The bowl form with flared collar (Fig. 105:25–27, Pl. 16:3), new in this range, was certainly inspired by the same profile in the painted wares. It appears among the Kurdu-like sherds of the First Mixed Range (see p. 110 and Fig. 82:9), and a complete Phase C profile is shown in Figure 106:1 (Pl. 13:4). In no case is burnish used below the collar inside or much below the collar outside.

Hole-mouth jars (Fig. 107:1–3) are no longer very common, probably because hole-mouth jars were the normal cooking pots and the makers no longer bothered to burnish them. They

[3] The clay, on being burnished, responded very well to compression, increasing in both color and luster; the desired effect was evidently a shiny black rim band on an otherwise dull gray bowl. That this could be achieved without the aid of a slip will be seen by close observation of Pl. 81:8, which shows a quite typical sherd.

are still common in the Dark-faced Unburnished Ware. The only example of a ledge handle is on a hole-mouth sherd (No. 3) which also shows the typical decorative band of burnish about the rim.

Sherds indicating low-collared jars (Fig. 107:4–10, Pl. 16:4) do not appear in quantity. They refer to pots which were larger and thicker-walled than the normal examples in Phase B (cf. Fig. 47:2–4), and some of the collars are considerably higher. The variants (Fig. 107:7–10)

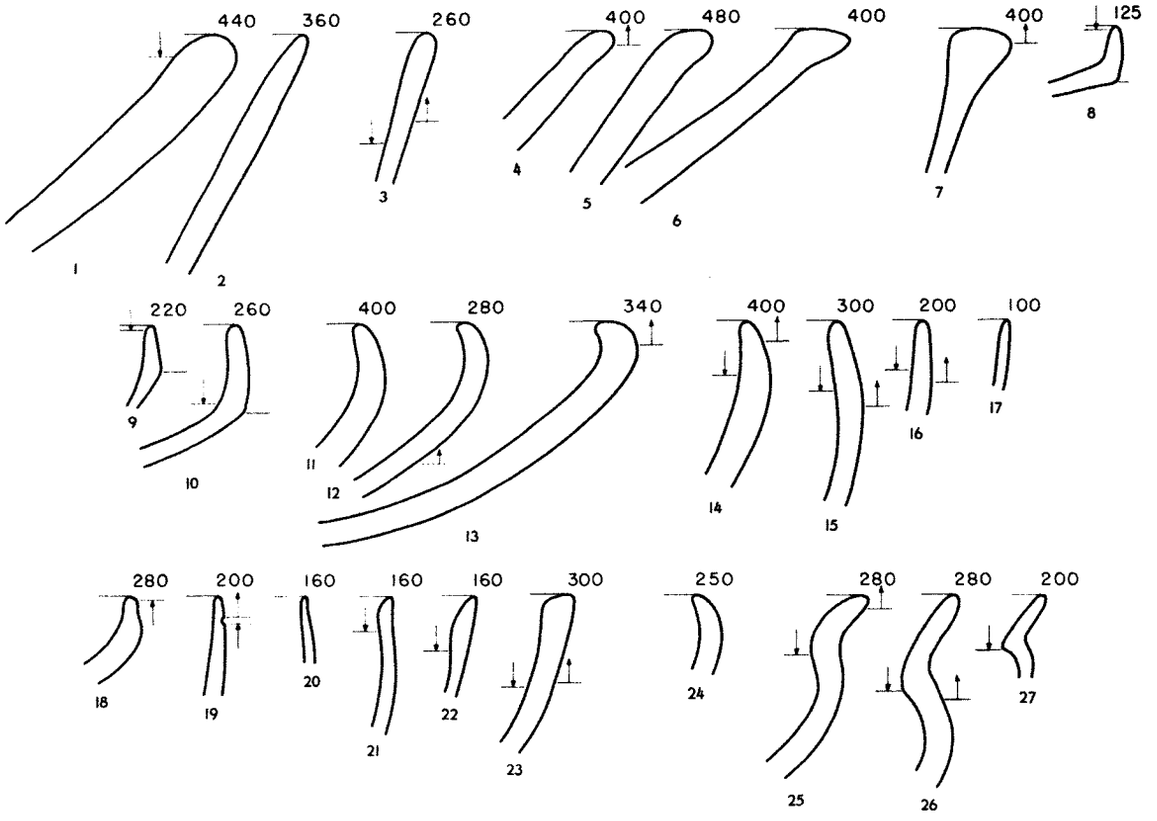

FIG. 105.—PHASE C. DARK-FACED BURNISHED WARE. SCALE, 1:3

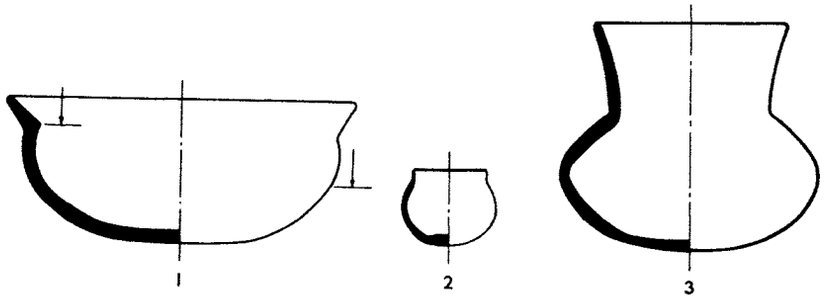

FIG. 106.—PHASE C. DARK-FACED BURNISHED WARE. SCALE, 1:5

show certain sharply molded examples, one of which has burnish up to the neck but an unburnished band on the lip itself (No. 10). A cup-sized example (Fig. 106:2) is of a type seen in Phase B (Fig. 45:2).

Approximately 35% of all the burnished ware sherds represent jars with higher flared collars (Fig. 107:11–18), this being by far the most common form. A restorable pot (Fig. 106:3, Pl. 13:8) shows a complete profile. There is no essential change from Phase B (cf. Fig. 47:10–19) except in increased wall thickness and the fact that here again the burnish is not neces-

sarily used below the collar on the outside. The burnish stop below the lip inside is always characteristic for the obvious reason that it was impossible to get the tool very far down on the inside. The variant sherds include one with red-orange slip but no burnish (Fig. 107:18), a shoulder sherd with Phase D type wiped burnish (Fig. 107:17), and a body sherd with squat rather sharp profile (Fig. 107:16). The high-collared jar is one of the most characteristic forms in the burnished ware series, starting modestly in Phase A (see Fig. 24:5–9) and continuing until the ware dies out in Phase E.

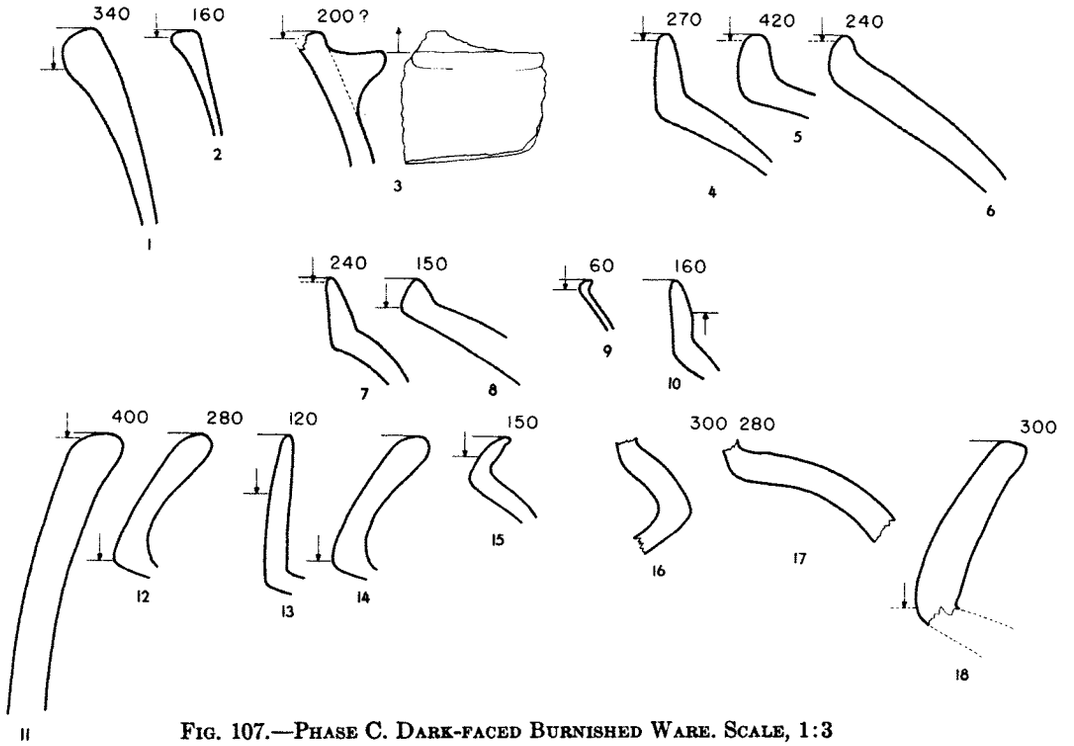

FIG. 107.—PHASE C. DARK-FACED BURNISHED WARE. SCALE, 1:3

Two sherds may refer to a cup with sharp change in plane and slightly concave upper body (Fig. 108:1) and some form of jar with a plastic blob on the body (Fig. 108:2).

Two of the whole pots have rounded flattened bases (Fig. 106:1, 3), a type which was not noticeable in the sherd sortings. In the range of flattened bases (Fig. 108:3–8), the more sharply flattened variants are rare. One sherd shows a ring base with sharply thinned body wall above (Fig. 108:9). One high hollow pedestal base appeared (Figs. 108:10, 109). Ring bases and even some low pedestals (Fig. 43:7) are known in Phase B. One flat base (Fig. 108:11, Pl. 16:5) is covered with small shallow impressions. These form no pattern and were probably caused when the unbaked and still damp pot was set on a pile of grain; mat impressions are not involved. The base sherds only rarely show burnish inside.

The only secondary features are the ledge handle and the applied blob mentioned above. The only old decorative feature is pattern burnish on a few sherds, the typical cases of which are shown (Fig. 110).

DARK-FACED UNBURNISHED WARE

(19–24% of total selected sherd bulk)

Two subgroups appeared in the following approximate proportions to the total sherd bulk: 10–15% in finer more buff clay (bowls, jars, etc.) and 7–12% in coarser darker clay (cooking pots).

The first subgroup (Fig. 111) appears in clay megascopically similar to that of the burnished ware (see p. 138)[4] and exhibits the same profiles. Here there is a larger proportion of orange-buff sherds. This feature is especially noticeable on the surface, which is usually light orange-buff (e.g. Pl. 81:2), though a few sherds are gray-buff. The surface is generally wet-smoothed, though a few cases of either self-slip or true slip appeared.

The clay of the second subgroup (Fig. 112) also is like that of the burnished ware, but the mineral inclusions are larger and shell, often in large fragments, is more common. When oxidized, the clay is orange-brown buff, but normally only about a quarter of the body wall area is sufficiently fired to cause oxidization, the central core being still black. The surface is dull

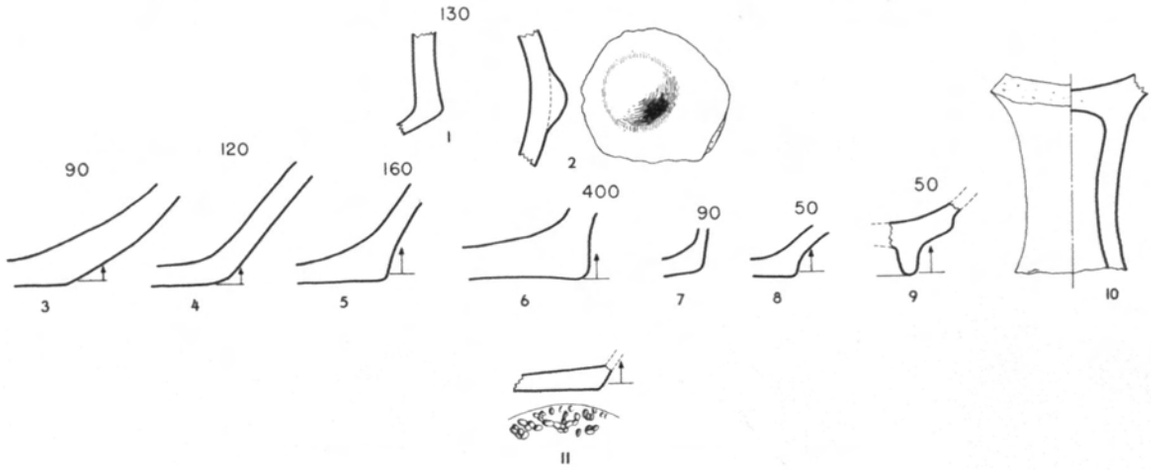

FIG. 108.—PHASE C. DARK-FACED BURNISHED WARE. SCALE, 1:3

FIG. 109.—PHASE C. DARK-FACED BURNISHED WARE PEDESTAL BASE (SEE FIG. 108:10). SCALE, 1:2.

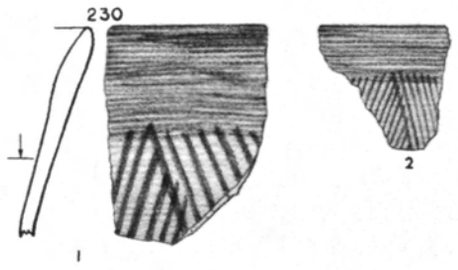

FIG. 110.—PHASE C. DARK-FACED BURNISHED WARE SCALE, 1:3.

gray-brown or black and generally roughly granular (see Pl. 17:1, 3), having the same sandpaper-like feel as the earliest examples of this ware, in Phase B (see p. 78).

The sherds show how closely the buff-colored subgroup follows the burnished ware forms. Straight-sided open bowls (Fig. 111:1), higher hemispherical bowls (Fig. 111:2–4), bowls with incurved rim (Fig. 111:5–6, Pl. 17:8), and bowls with flared collar (Fig. 111:7, Pl. 17:9) all occur. A bowl sherd with coarse impressed scorings on the inside is unique (Fig. 111:10, Pl. 81:7); it may have been prepared as a grater or "husking tray." One sherd indicates a somewhat concave inner-rim collar on a vertical-walled bowl (Fig. 111:8), and another sherd must represent a low bowl with occasional vertical piercings (probably for string attachment) through a projecting molding at the point of change in plane (Fig. 111:9). Hole-mouth jars have plain rounded lips (Fig. 111:11–12) save for two rather flattened examples (Fig. 111:13–14) of a

[4] And also to that of the Local Painted Ware (see pp. 143 f.).

type common in Phase D. High-collared jars appeared normally (Fig. 111:15–16), though a large example (Fig. 111:18) is exceptional and a slightly concave collar (Fig. 111:17) may presage the bow rims of Phase D. The normal range of flattened bases is shown (Fig. 111:19–20), and presumably rounded bases also occur.

The characteristic profile feature of the second subgroup is a thickened or splayed lip, rail-like in section, as in Phase B (cf. Fig. 52). The normal range (Fig. 112:1–4) seems to indicate forms which vary from hole-mouth pots (Pl. 17:3) to deep bowls (Pl. 17:1), sometimes with quite thin body wall (Fig. 112:5). Less splayed lips (Fig. 112:6–9) are not so characteristic. Several collared-jar rims appeared (Fig. 112:10 being typical), but the form is not common. Some of the bases are flat (Fig. 112:11–13).

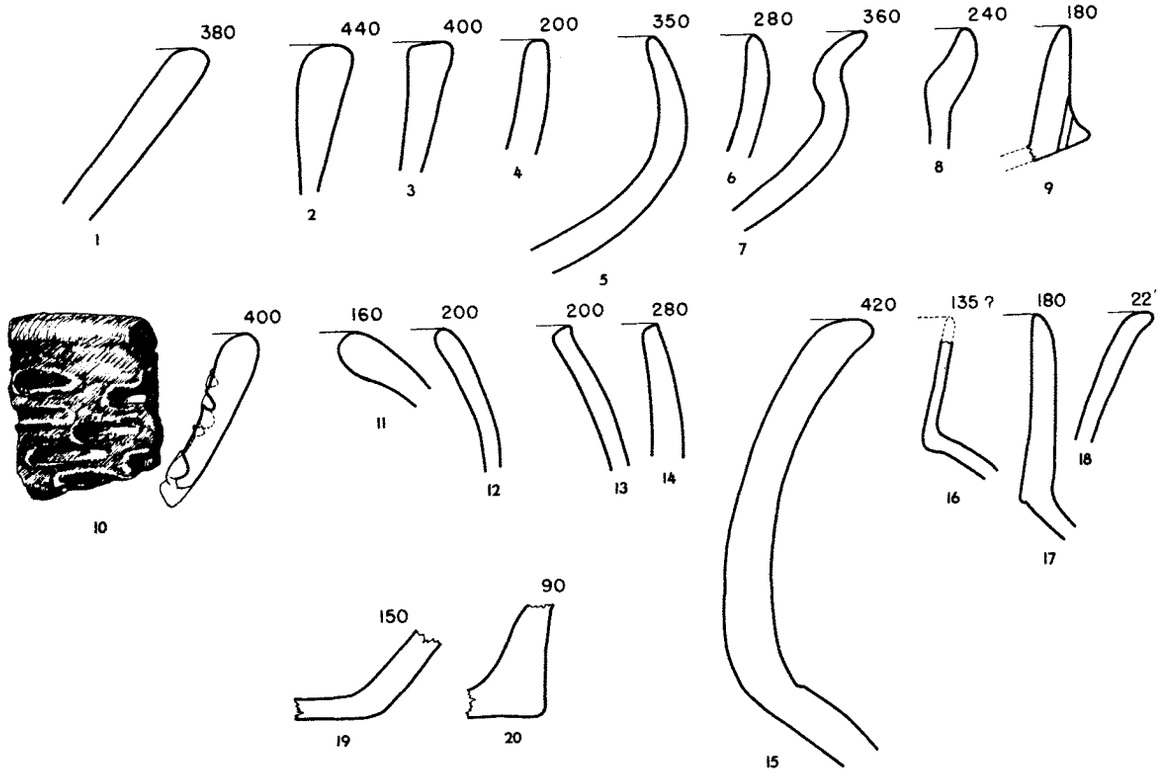

FIG. 111.—PHASE C. DARK-FACED UNBURNISHED WARE OF FINER CLAY. SCALE, 1:3

LOCAL PAINTED WARE

(31–36% of total selected sherd bulk)

This ware, already seen in the third painted group of the First Mixed Range (see p. 114 and Fig. 86), shows the strength of Halaf influence on products which on gross examination of the clay seem generally normal to the ʿAmuq. The pots were handmade. The paste is normally orange-buff, varying from light orange-buff or gray-buff to red-orange buff, and usually completely oxidized. There are varicolored mineral inclusions and occasionally bits of chaff. Heavy concentrations of fine red and white sandy grit are characteristic, although there is a fair proportion of sherds with only sparse concentration of fine inclusions. Coarse and even medium-sized inclusions are rare. The surface color varies from light orange-buff (Pl. 81:3) or gray-buff to red-orange buff, being normally orange-buff (Pl. 81:5). The finish is fairly smooth; there are some cases of self-slip, but true slip and burnish are very rare. The fabric is not very hard, and there is some abrasion of edges. Paint color varies from red-orange buff to brown-black, red-orange brown being normal. The paint is dull, nonpenetrating, and subject to some crazing.

It is probably an ocher solution, and color change resulting from heat variation or from thickness of application is normal. In total, these sherds have the soft, dull, and finely granular feel characteristic of the general run of Kurdu painted wares through Phase E.

This ware differs from the Kurdu burnished ware only in being better fired and in the use of slip to decorate portions of the surface rather than to cover it entirely. Most of the sherds are well fired, 79% having no black core. (This does not necessarily mean that a higher firing temperature was used.) It is the best oxidized ware so far developed. It is made of very fine-textured *serpentine* clay that may have been levigated. The painted decoration is probably a slip made from red mountain clay. The slip has a dull appearance, which indicates that it was not fired as high as 1,000° C., for at that tmperature it would begin to vitrify. Most of the decoration is orange to red-brown in color. The few pieces with black decoration must have been fired in portions of the kiln where reducing atmospheric conditions prevailed. The black-painted areas are magnetic, an indication of reducing conditions. A change in firing techniques and the use of slip as decoration were important steps in the ceramic development of the ʿAmuq. It would appear that Halaf influence was responsible for their adoption.—MATSON.

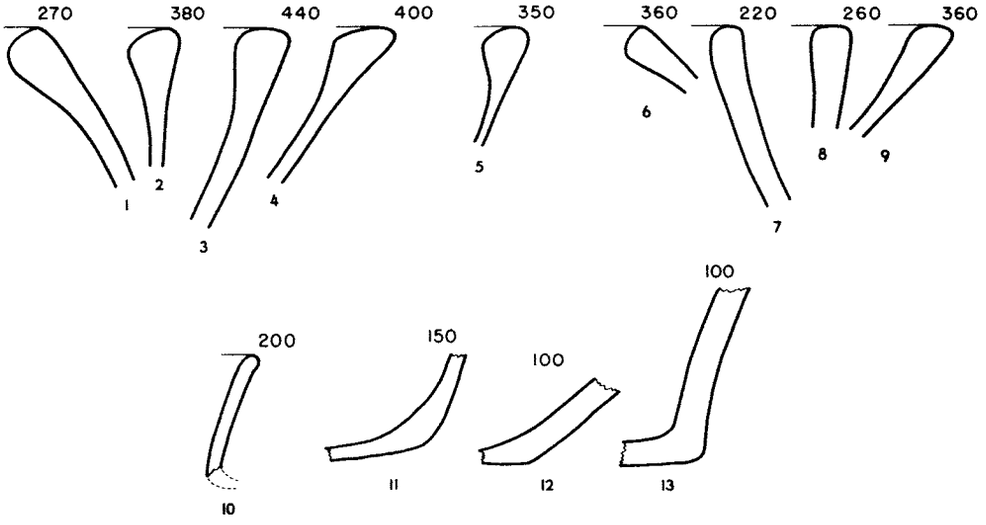

FIG. 112.—PHASE C. DARK-FACED UNBURNISHED WARE OF COARSER CLAY. SCALE, 1:3

The forms indicated by the sherds show that collared profiles, in both bowls and jars, were emphasized. The greatest part of the sherd bulk consists of body sherds whose profiles were not classified. Of the rim sherds, *ca.* 42% show flared-collar bowls and *ca.* 25% collared jars, the remainder having simpler curves.

The smaller of the sherds classed as straight-sided bowls (Fig. 113:9–15) could possibly be collar fragments of flared-collar bowls (cf. Fig. 113:17–25, Pl. 14:11). Deep hemispherical bowls (Fig. 113:1–2) and cup-sized variants (Fig. 113:3–5[5]) occur. Probably to be classified as corollary to these is a somewhat higher beaker-like profile (Fig. 113:6–8, Pls. 14:8 and 81:3). Four rim sherds (Fig. 113:9–12, Pl. 14:12) belong to either the bowl or the beaker profile, but their arcs are too short to allow further classification. One sherd indicates a low vertical-sided bowl (Fig. 113:16). Flared-collar bowls have either rather straight high rims (Figs. 113:17–22 and 114:2, Pl. 13:9) or, more commonly, more flared and rounder rims (Figs. 113:23–25, 114:1). Variants include a low bowl with low flared rim (Fig. 115:1) and deeper almost closed bowls with high to low outflared rims (Fig. 115:2–4).

Collared jars are indicated by rim and body sherds, the collars normally being rather straight and not broadly flared (Fig. 115:5–7), but several variants show more flaring collars

[5] The change of plane in Fig. 113:4 is atypical.

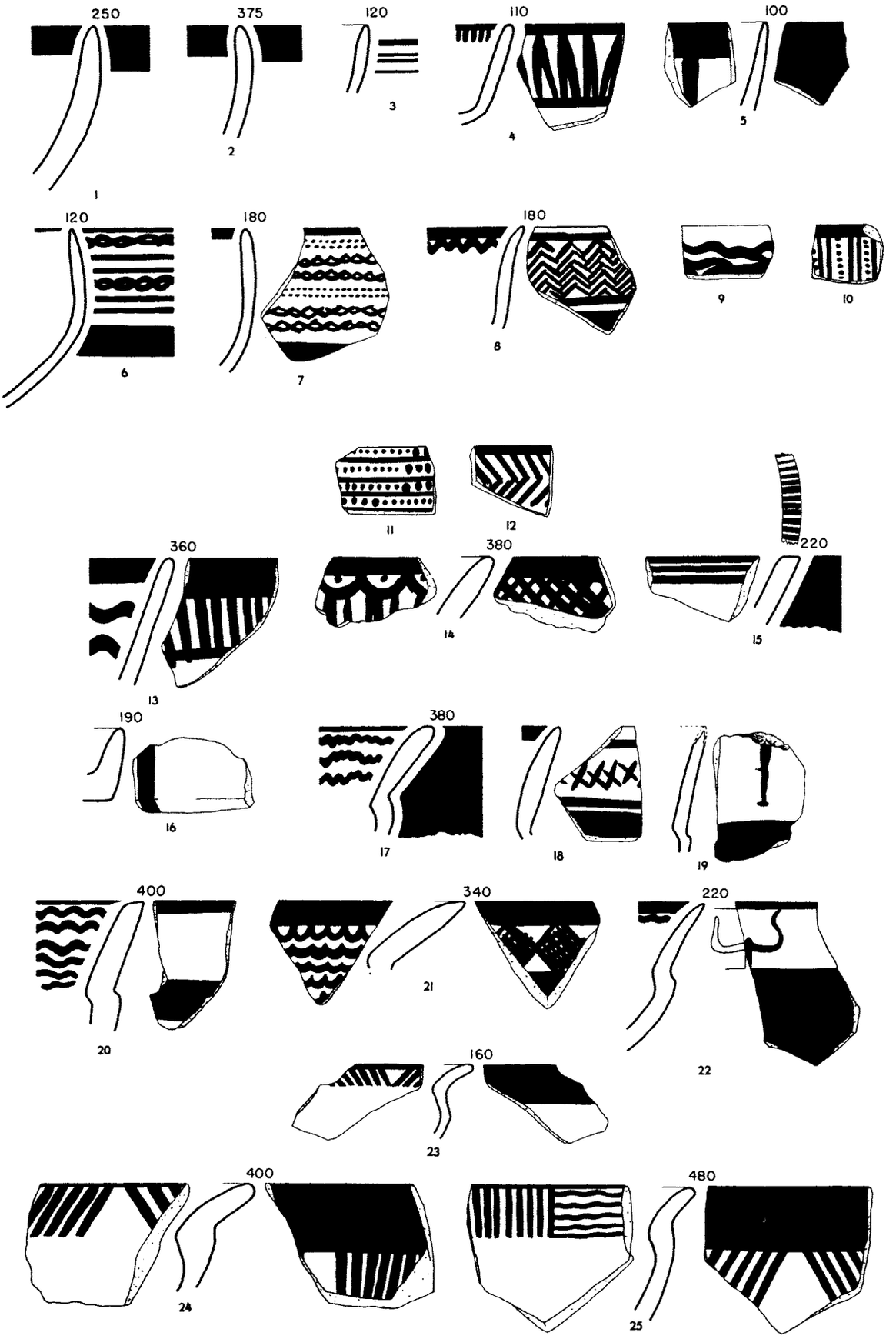

FIG. 113.—PHASE C. LOCAL PAINTED WARE. SCALE, 1:3

(Fig. 115:8–9). One rim sherd (Fig. 115:10) may be extrusive from Phase D. In profile, however, the bulk of the jar rim and body sherds (Fig. 115:11–17) differ little from the Phase B examples in burnished ware. A shoulder sherd (Fig. 115:18) may belong here, but its diameter is very large and its collar somewhat concave.

No secondary features appeared in the field sortings. Flat bases (Fig. 115:27–28, Pl. 14:14) are normal. One sherd is probably to be restored as a ring base (Fig. 115:29). A thick sherd with decoration on the inside only (Fig. 115:8) is classified as a flared rim, but it might actually be part of a pedestal base.

Most of the painted decoration consists of simple geometric motifs. Plain bands are most common; groups of oblique or vertical lines between bands are usual. Wavy bands or swags below solid lip bands are common on the insides of bowl rims (Fig. 113:14); swags are evidently less common on the outside bodies of jars. Zigzag lines or contiguous triangles between bands and inclosed hatched diamond bands are well represented; alternating plain and wavy bands, composite chevrons, crosshatches, and recumbent V's are less common. The more striking Halaf motifs are rare; two sherds (Fig. 113:19, 22) probably show bukrania. Fringed

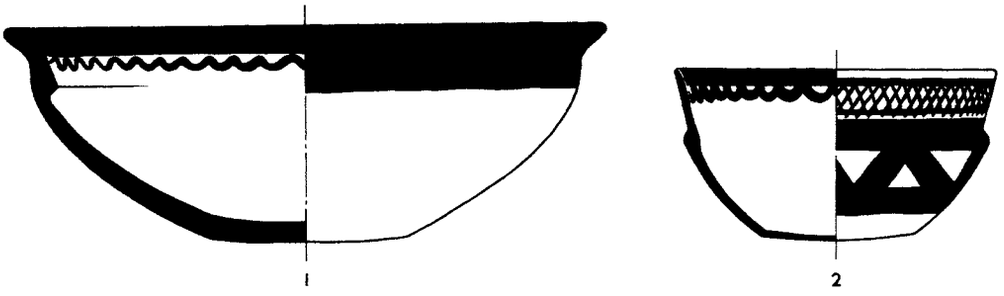

FIG. 114.—PHASE C. LOCAL PAINTED WARE. SCALE, 1:5

swags (Fig. 113:14, Pl. 81:5) and X's (Figs. 113:18, 115:25) possibly refer to Samarran design increments in Halaf, while chain bands (Fig. 113:6–7, Pl. 81:3) and lines or bands of dots (Fig. 113:10–11, Pl. 14:12) are known Halaf motifs.

Several sherds were chipped along the edges for use as scrapers (e.g. Figs. 113:19, 115:14; cf. n. 6).

HALAF PAINTED WARE
(4–9% of total selected sherd bulk)

As in the First Mixed Range, there is a small percentage of proper Halaf sherds. The pots were handmade and always fired to complete oxidation. The paste varies from light creamy buff to orange-buff, light orange-buff being normal. The varicolored mineral inclusions are usually fine and in sparse concentration, although individual cases with heavier concentration or coarser grit appear. Vegetable inclusions are scarce and fine. While a few sherds are quite brittle, the fabric is normally just soft enough so that some abrasion may appear but harder than any other in Phase C.[6] The surface is wet-smoothed or self-slipped, with only one positive case of a true slip; the range of color is essentially that of the paste, light orange-buff being normal. The paint (see Pl. 81:4, 6) is probably a hematite solution; it is usually thickly applied and varies from orange-buff to brownish or greenish black, red-orange brown being normal. Color change resulting from either variable heat or thickness of application occurs, and the paint also crazes. Perhaps because of the chemical composition of the soil at Kurdu, the paint is on the whole considerably less glazelike than that of the Halaf pieces of the First Mixed Range on Judaidah. The rule followed in the classification of Phase C painted sherds was to place those with completely dull paint and indecisive clay criteria with the local painted group

[6] This probably accounts for the fact that a half-dozen or so of these sherds show edges trimmed as in flint to make them usable as scrapers (Fig. 116:3, 7).

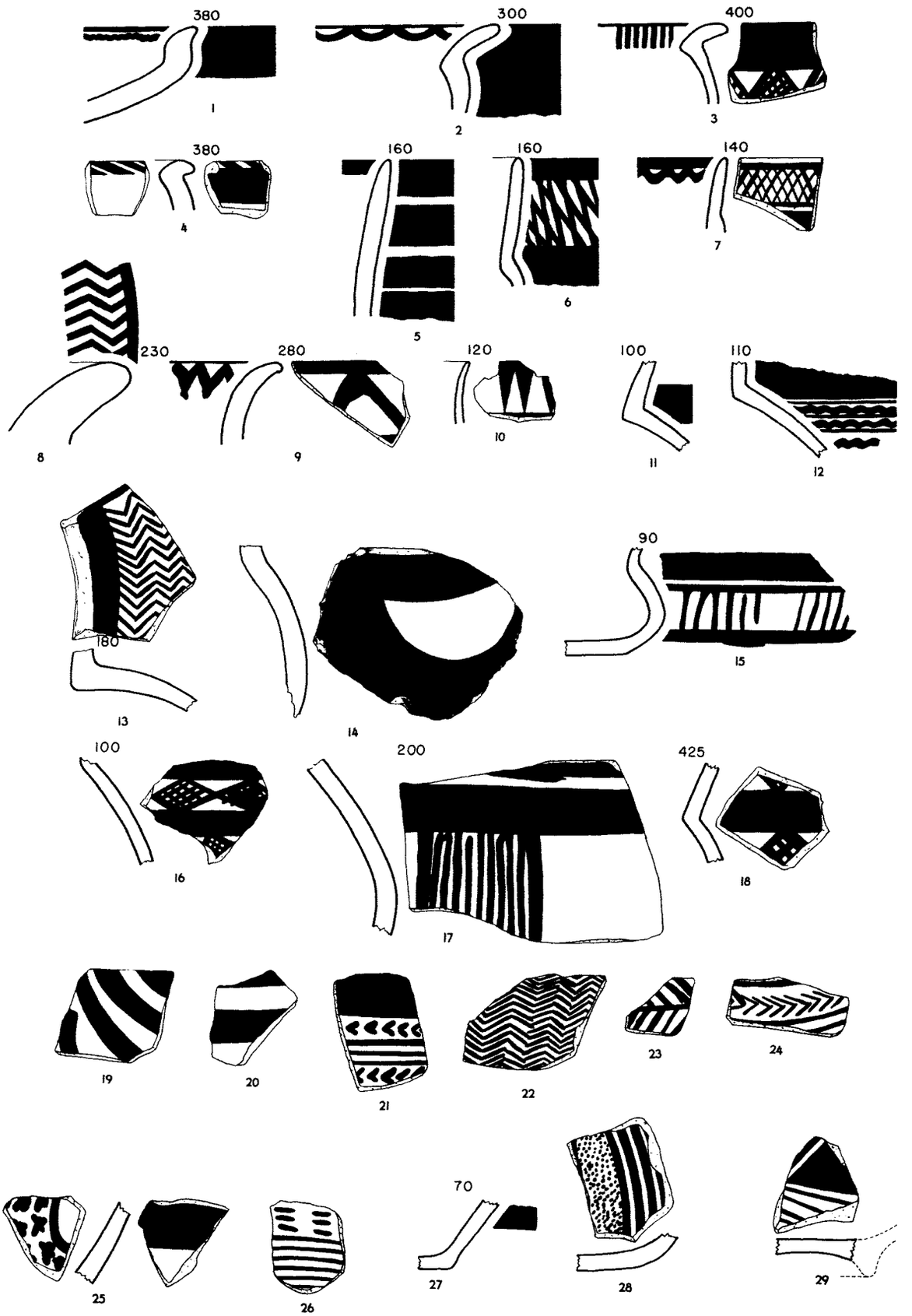

FIG. 115.—PHASE C. LOCAL PAINTED WARE. SCALE, 1:3

regardless of motif; hence certain sherds (Fig. 113:19, 22) classified as local may actually belong in the Halaf group, but there is considerably less likelihood that any sherds classified as Halaf belong to the local group.

Half of the sherds in this group are made of the local *serpentine* type clay and should probably be classed as good quality examples of the Local Painted Ware. The other half are extremely fine-textured, hard, brittle, and range in color from yellow-green to orange. In thin section most of the latter are like those of the Halaf group in the First Mixed Range and are similar to the few Halaf sherds from the Mosul region that were studied.

A few sherds have pinkish-cinnamon surface, frequently a gray core, no decoration, and are very fine-textured. They represent small closed shapes. The ware was high-fired, for the clay is isotropic in thin section. It is suggested that this imported group be termed "Cinnamon Ware."—MATSON.

The rim sherds indicate that the flared-collar bowl was the most popular imported profile (Fig. 116:1–5, Pl. 14:18). Normally the lips are rounded and the changes in plane are plainly marked, but flattened lips and sharper changes in plane occur (Fig. 116:1). Deeper more hemispherical bowls (Fig. 116:13) are rare, while hole-mouth and less closed beaker-like forms (Fig. 116:7–10, Pl. 14:15) are more common. Collared jars also are indicated (Fig. 116:12), with a more rounded flared rim as a variant (Fig. 116:11). The body sherds (Fig. 116:14–20) are shown to demonstrate the further variety of motifs possible; all seem to refer to the profiles listed above.

The motifs are predominantly plain bands, bands of "sigmas" (Fig. 116:2), chain bands with dot fillings (Fig. 116:3, 9) and crosshatching. Bukrania (Fig. 116:13, Pl. 81:6), chevron bands and composite chevrons, and swags or wavy bands below inner-lip bands are present.

If both the form and motif repertoires seem restricted, it must be remembered that the total Phase C sorting is relatively small and that the Halaf sherds make up less than 10% of it. Since there is no reason to believe that the proportion of Halaf sherds would be any greater in a more adequate Phase C total sorting, Phase C cannot be called "Halafian" with all the implications which that word has in the Jazirah.

MISCELLANEOUS SHERDS
(0–3% of total selected sherd bulk)

These sherds cannot be classified with any of the foregoing wares. Most of them come from the uppermost 50 cm. of trench IV, and their context is therefore suspect.

The first group of sherds are in orange-buff clay apparently little different from that of the Local Painted Ware, or from that of the main Phase E painted group (ʿUbaid-like Monochrome Painted Ware) for that matter. They are painted in two colors, intended to be red and black but actually a more or less dense red-orange and a brown-black. The paint is thin, and neither color has any luster. The main motifs and the single profile recovered are shown in Figure 117:1–4. Typologically, this group is certainly related to the bichrome decoration running from Phase D into Phase E.

The sherd shown in Figure 117:5 (Pl. 17:16) is one of three (probably from one pot), in fine light gray-buff clay, with outer coverings of tangs of clay applied with the finger. Not all the tangs need point in one direction (see Pl. 17:17).

A single sherd (Fig. 117:6), with black bands and vertical lines, is of clay which is grossly similar to that of the Brittle Painted Ware of Phase B (see p. 80 and Fig. 55), but, being unique here, it cannot be considered as anything but an eccentric.

Several sherds of Corrugated Painted Ware appeared (cf. Figs. 89:4 and 128:7–9).

The last small group (Fig. 117:7–10) includes sherds which in some characteristic of clay, profile, or motif correspond to the Phase E ʿUbaid-like Monochrome Painted Ware. They all come from the uppermost 50 cm. of trench IV and are probably intrusive.

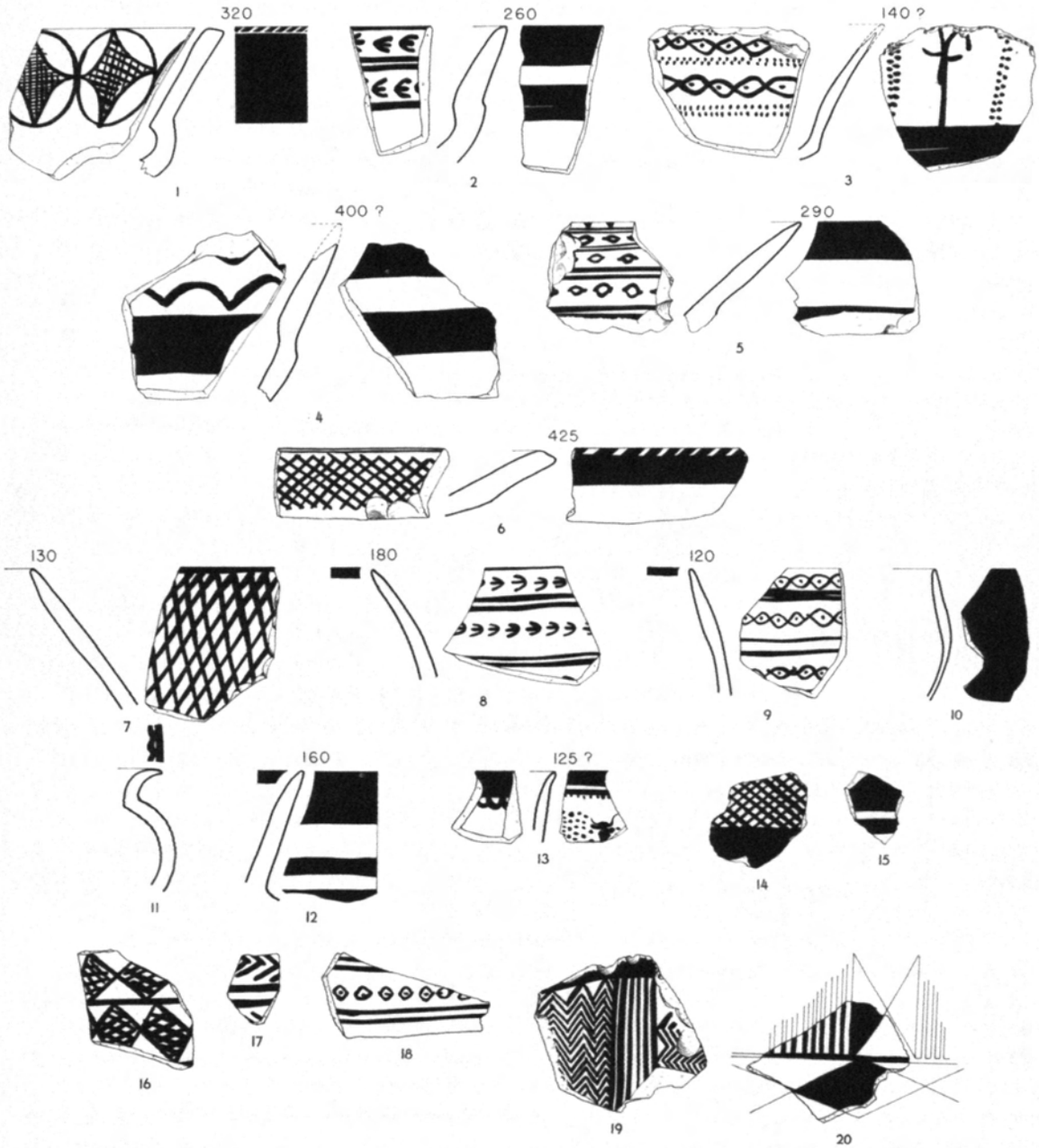

FIG. 116.—PHASE C. HALAF PAINTED WARE. SCALE, 1:3

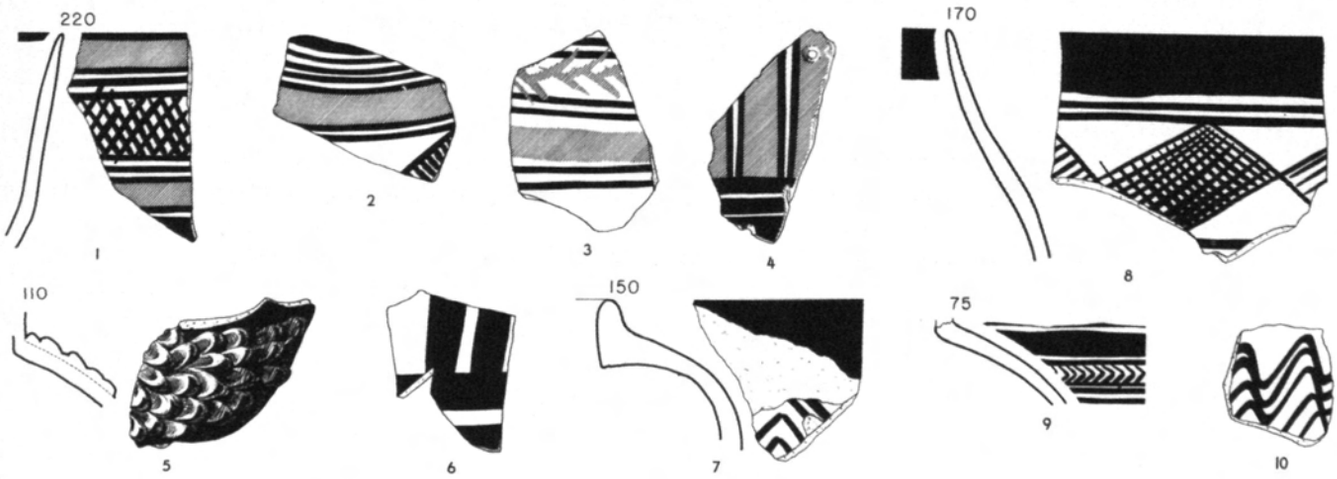

FIG. 117.—PHASE C. MISCELLANEOUS SHERDS. SCALE, 1:3

BAKED-CLAY OBJECTS

Only four small objects in clay were found in the Phase C depths on Kurdu. None of these are burnished, and the clay has the megascopic appearance of the buff variety of unburnished ware (see pp. 141 f.).

A rather imperfectly rounded pierced potsherd disk is presumably a spindle whorl (Fig. 118:1). There are two molded spindle whorls, one ovoid in section (Fig. 118:2, Pl. 48:7) and one markedly biconoid (Fig. 118:3, Pl. 48:9). Both seem to have been molded about a stick, which was later withdrawn to leave the hole (d. *ca.* 6 mm.). The last clay object (Fig. 118:4, Pl. 49:4) is assumedly a sling missile. It is a prolate spheroid, almost pointed at the ends, and was evidently finger-molded. Such objects are common in Phase E (see p. 204), and similarly shaped slingstones appear in Phase A (see p. 61).

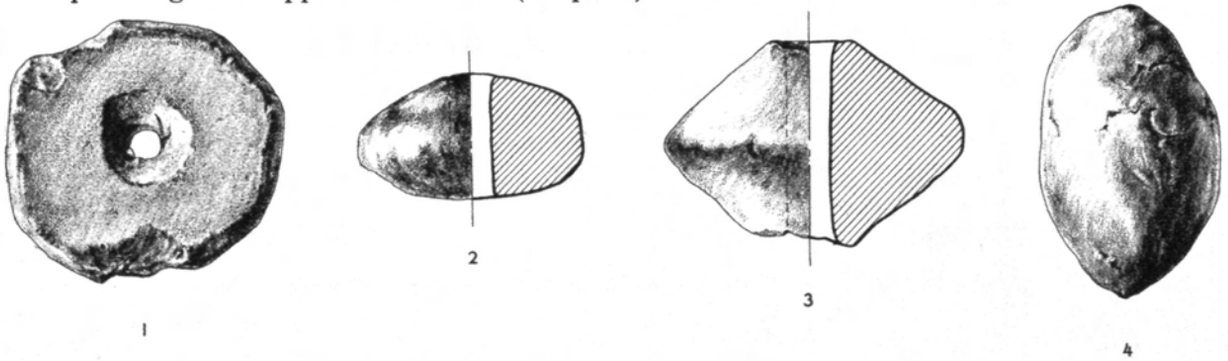

FIG. 118.—PHASE C. BAKED-CLAY WHORLS (*1–3*) AND A SLING MISSILE (*4*). ACTUAL SIZE

FLAKED STONE OBJECTS

The number of flint (78) and obsidian (44) implements representing this phase is decidedly too small to give more than a bare indication of the Phase C industry (see p. 137). No javelin heads or arrowheads were found.

FLINTS

SICKLE BLADES

A high proportion of the flint implements are sickle blades (34 examples). Though the sampling is so small, the sickle blades (Fig. 119:1–8) show a distinct change from those of Phases A–B. They are definitely broader and longer. The majority are prepared for hafting by steeply retouched back and ends. More than half have one diagonal end, and some have two such ends. The denticulation is fine and irregular (yet with well marked teeth), formed mainly by upper-face retouch. In quite a few examples, especially in type 1 (see below), the facets forming the denticulation are fairly deep (see Fig. 119, left edge of No. 1 and right edge of No. 7). There is a variety of types, which are detailed numerically below for comparison with Phases D–E. The retouch, unless otherwise indicated, is on the upper face.

1. Sickle blades with steep retouch on back and/or ends (24 examples).
   a) Broad and fairly long, steep retouch on back and ends, one or both of the ends diagonal (14 examples). Largest 67 × 22 × 6 mm., smallest 45 × 16 × 3 mm., average 51 × 19 × 6 mm.

   In over half the examples the steep retouch is rough (Fig. 119:3); in the remainder the retouch is fairly smooth (Fig. 119:1). One example (Fig. 119:2) is peculiar in that the upper end is slanted off (and blunted) in a direction opposite to that of the others. In five examples the diagonal upper end makes a well defined angle with the back (as in Fig. 119:1). In one of these the lower end also is diagonal, giving a parallelogram shape to the blade. In the remaining eight examples the upper end is diagonal but trimmed so that it curves into the back (Fig. 119:3–4, No. 4 being most typical); the lower end also is trimmed round, so that the general effect is a somewhat lopsided lunate

shape. One example was used without any retouch on the working edge. The remainder are denticulated by upper-face retouch. In five of these, the fine irregular denticulation is deeply faceted (see left edge of Fig. 119:1).

b) Broad and fairly long, steep retouch on ends but none on back, diagonal ends (4 examples). Largest 63 × 18 × 4 mm., smallest 41 × 18 × 5 mm.

In two examples the upper end makes a definite angle with the edges (as in Fig. 119:1); in one of these the lower end is snapped parallel with the upper end. In the third example the upper end curves into the back (as in Fig. 119:4), with steep retouch extending a bit down the back; the lower end is moothly rounded off. In the fourth example the lower end curves out to meet the working edge and the upper end is trimmed and curved in the opposite direction, thus giving a broad lunate shape. Two examples have some nibbling retouch along the back. One was used without any preliminary denticulation. Three are denticulated by upper-face retouch, two being deeply faceted.

c) Short and slender, steep retouch across back and occasionally the ends, straight ends (6 examples). Largest 43 × 15 × 5 mm., smallest 32 × 13 × 4 mm., average 36 × 14 × 6 mm. Figure 119:5.

Three examples are retouched only across the back, two across the back and one end, and the sixth example is steeply retouched across the back and both ends. In the last example the back is retouched from both the bulbar and the upper face, but the ends are retouched only from the bulbar face. The steep retouch is fairly rough in most cases. (Unfortunately Fig. 119:5 does not convey the depth of blunting along the back, though the section does give some notion of it.) As to denticulation, one example was used without retouch; one combines upper- and bulbar-face retouch; four examples have upper-face retouch, three showing deep facets.

2. Broad and fairly long sickle blades with additional retouch (not steep) on back or ends (3 examples).

One example (Fig. 119:8) has flat smooth retouch on each end; the working edge (at left) is not retouched; the other edge shows wear but no polish. The second example (30 × 22 × 4 mm.) has flat smooth retouch on each end; the back is nibbled. Nibbling retouch on the upper face forms a gentle denticulation on the working edge. In the third (62 × 21 × 5 mm.) both ends are rounded off by hinge fracture and thus are not retouched; there is some upper-face nibbling along the back.

3. Bi-edged sickle blades (3 examples). Figure 119:7.

All have some additional retouch other than that which pertains to denticulation. One (Fig. 119:7) has flat smooth retouch on the ends. The right edge is deeply faceted (as in some examples of type 1); the left edge also has upper-face retouch forming the denticulation. Flat blunting retouch at the extreme lower left edge and the notch above (formed by nibbling retouch on bulbar face) show no sheen and were added after this edge had ceased to be used as a sickle. The second example (51 × 15 × 5 mm.) is retouched on one end. One edge was used with no retouch but is slightly denticulated by use. The other edge has upper-face retouch, rather deep in parts; this edge may originally have served as the back. The third example (29 × 17 × 3 mm.) is not retouched at the ends. One edge is denticulated by bulbar-face retouch; there is steep retouch along part of the other edge, which also shows polish; this edge may originally have served as the back.

4. Short and slender sickle blades with no additional retouch (4 examples). Largest 40 × 11 × 4 mm., smallest 23 × 9 × 2 mm. Figure 119:6.

These are similar to the sickle blades of Phases A–B. All have plain straightly snapped ends and plain back. One has neat nibbling retouch on the upper face; the other three also have fine irregular denticulation, but it is formed by bulbar-face retouch. The back of one shows signs of wear but no sheen.

BLADES

A number of the twelve blades are comparable with the short slender type of Phases A–B. The others, however, are much broader and somewhat longer (Fig. 119:11). The striking platform in all cases is extremely small and plain; sometimes it shows signs of battering.[7]

[7] The broad blade with small plain striking platform is in noticeable contrast to the Cananean blade (see Phase F flint industry), which always has a very broad faceted platform.

Almost all the blades show signs of use, and many have nibbling retouch along one or both of the edges. The retouch may be on either the upper or the bulbar face. The largest blade measures 92 × 35 × 10 mm., the smallest 51 × 12 × 5 mm., and the average is 67 × 18 × 5 mm.

BLADE SECTIONS

About half of the twenty-three examples are bulbar tip sections. The remainder are divided fairly equally between middle and end sections. The sections average 45 × 17 × 4 mm. Although the majority are fairly narrow, some have the same proportions as the main type of sickle blade. The striking platform as seen on the bulbar sections is plain and very small and in some cases battered. All the blade sections show signs of use, and the majority have nibbling retouch along one or both of the edges, mainly on both. Two middle sections have shallow notches. One has two opposing notches, one formed by nibbling retouch on the upper face and the other by nibbling retouch on the bulbar face. The other has only one notch, formed by nibbling retouch on both the upper and the bulbar face.

BORERS

One borer is made at the end of a tiny blade. The retouch is confined to the point itself and consists of nibbling retouch on the bulbar face. The other three borers are made on blade sections, and all have smooth steep retouch not only at the point but extending the length of both edges. Two are retouched on the bulbar face. One (Fig. 119:9) has retouch only on the upper face; its tip has high polish like that found on sickle blades.

GRAVERS

One is a transverse straight angle graver made on the bulbar tip of a narrow blade. The other (Fig. 119:10) is an oblique concave angle graver made on a broad bulbar end blade section.

END SCRAPER

There is one fragment of an end scraper, fashioned on a middle blade section, with smooth steep retouch on the upper face.

VARIOUS TOOLS

One tool is perhaps a tanged knife fragment (Fig. 119:12). It has rough steep retouch on the upper face, outlining the tang and extending along both edges. The other tool is the only implement in this phase which is made of tabular flint (Fig. 119:13). The slightly convex working edge is formed by flat careful retouch on both faces. The flake scars produced by the retouch have unusually jagged edges. The edge is very sharp and may have functioned as a knife.

Obsidian Artifacts

Only the simplest artifacts are represented in obsidian: blades and blade sections, flakes, and a core.

BLADES AND BLADE SECTIONS

Two small blades were found, but by far the greatest part of the obsidian implements are blade sections (35 examples), the majority from the bulbar end. The average dimensions are 29 × 10 × 3 mm. All show signs of use. A few of the broader blade sections have nibbling retouch along one or both of the edges; the retouch is on either the bulbar or the upper face.

FLAKES

Most of the flakes (6 examples) are small. All were utilized. A few have a small amount of nibbling retouch.

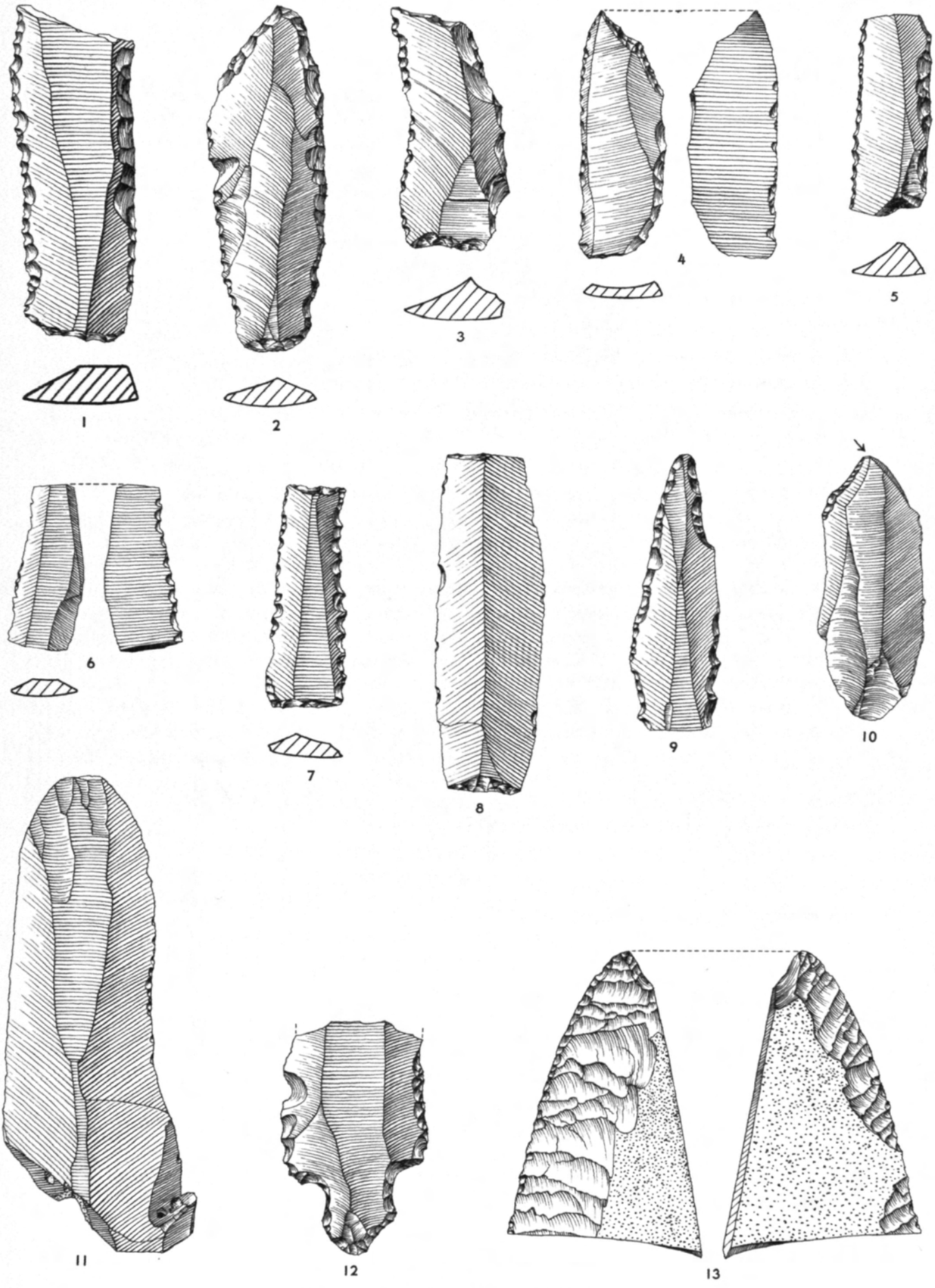

FIG. 119.—PHASE C. FLINTS. ACTUAL SIZE

CORE

This is a very neat double-ended blade core, more or less cylindrical in shape. The striking platforms are ground smooth. Blades have been removed from about two-thirds of the circumference, the majority from one platform. Apparently the striking platform had to form an angle of *ca.* 80° with the surface from which a blade was to be struck, for as soon as the maker had worked around to the back of the striking platform, where the angle would become obtuse, he changed to the other platform and removed a few blades where it formed an acute angle with the blade surface.

GROUND STONE OBJECTS

VESSELS[8]

The wall of a small shallow mortar-like bowl of chlorite-rich greenstone (Fig. 120:1, Pl. 67:5) is not quite symmetrical and ranges from straight to the slightly concave profile seen in the drawing. The inner surface, flattened lip, and flat base are smoothly ground. The outer wall was pecked into shape and left rough. A fragment of basalt (K123) may be a portion of a large flat bowl or mortar.

CELTS

There are no large tools. The two medium-sized tools (Fig. 120:2–3) are adzes. No. 2 is incomplete at the butt end, which was probably squared off. The beveling is asymmetrical and poorly defined. The working edge is straight and sharp. The tool is well made and highly polished. No. 3 (Pl. 68:14) probably was originally rectangular in section. A portion of the body was broken off in antiquity, and the tool was reused. The entire surface is highly polished except the broken portion, which was left rough but shows polish from use on all the high spots. The implement is not symmetrically shaped as is usual with celts; the working edge, though straight, is oblique. The beveling is poorly defined and tends to be of rounded outline. Though askew, the tool would serve quite efficiently as an adz.

There are two small tools (Fig. 120:4–5). No. 4 has an adzlike profile. The butt end is squared. The working edge is sharp and convex, formed by well defined bevel on one face; the other face is not beveled but curves gently to the working edge. The entire surface is polished. No. 5 is a fragment of a chisel which was probably rectangular in plan. The working edge is straight and sharp, formed by poorly defined asymmetrical beveling on both faces. The tool is well polished and neatly made.

WHORL

This solitary example (Fig. 120:6) is of calcareous schist. It is disklike, with double-bored perforation. The surface is smoothly ground.

STONE IDENTIFICATIONS

VESSELS

K122 greenstone, almost monomineralic chloritic (Fig. 120:1, Pl. 67:5)
K123 basalt containing felspar, hypersthene (diopside?), and some apatite

MEDIUM-SIZED CELTS

K98 anthophyllitic aggregate with a few grains of calcite (Fig. 120:2)
K154 anthophyllitic aggregate with a few grains of calcite, $n_\alpha = 1.608$ (Fig. 120:3, Pl. 68:14)

[8] A stone bowl fragment (K95) registered as a perforated rim fragment is also from this phase but was not sent to Chicago for study; no drawing is available. A straight-sided cup with perforated rim may possibly belong to Phase C but is included with the Phase E material (Fig. 162:13) because it is from the surface layer of trench IV, which contained a mixture of Phase C and Phase E pottery (see p. 18).

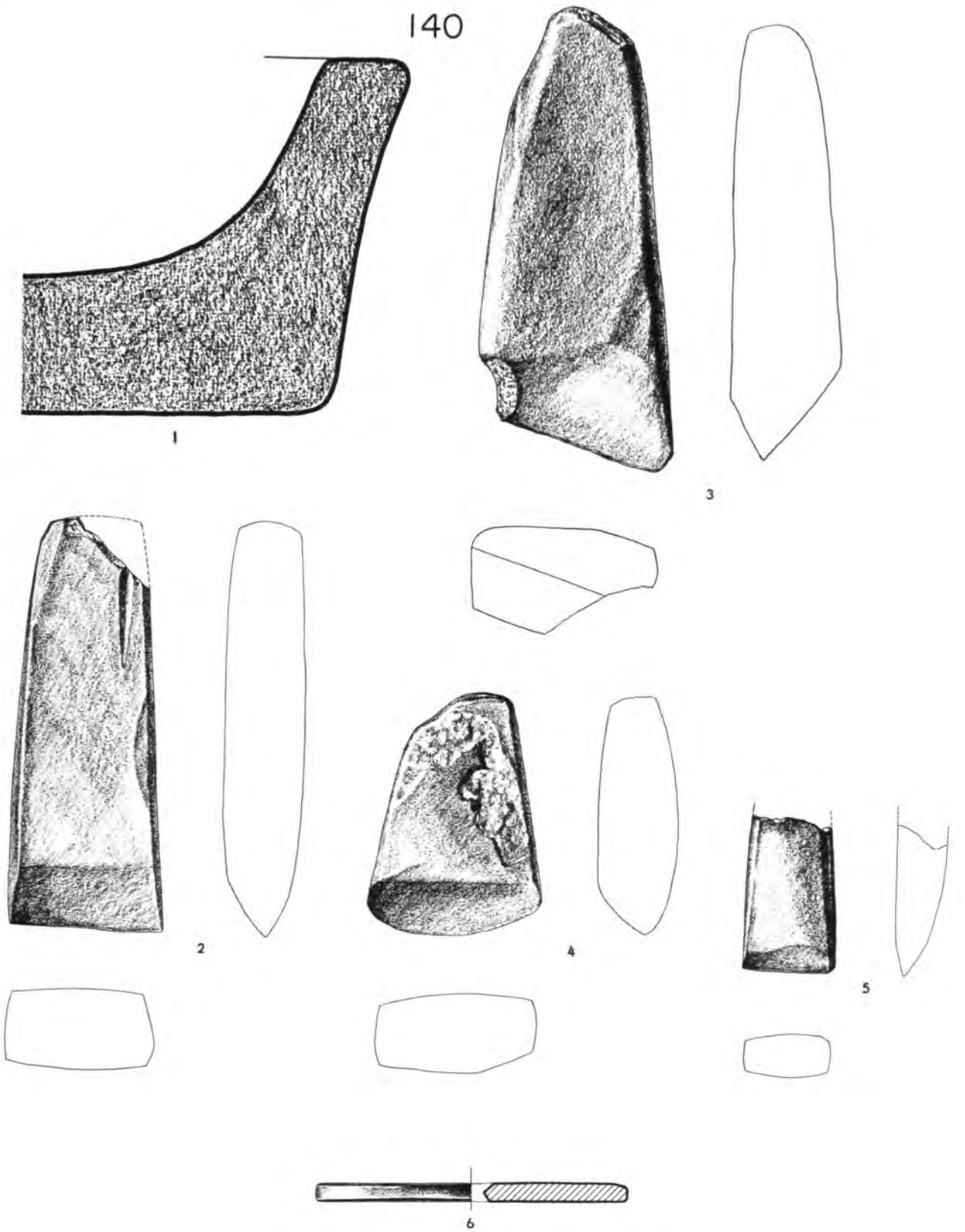

FIG. 120.—PHASE C. GROUND STONE OBJECTS. ACTUAL SIZE

SMALL CELTS

K155 anthophyllitic aggregate with a few grains of calcite, $n_\alpha = 1.608$ (Fig. 120:4)
K156 magnesium-rich amphibole (Fig. 120:5)

WHORL

K162 calcareous schist (Fig. 120:6)

NONARTIFACTUAL MATERIALS

VERTEBRATA

Domestic: dog, *Canis familiaris;* pig; sheep (or goat); ox.

VI

PHASE D

INTRODUCTION

PHASE D was isolated only on Kurdu (see p. 18 and Figs. 13–14), and there only in trench I (5.0–9.5 m.). Of all our phases, it is represented by the smallest bulk of material from the most restricted exposure (20 sq. m.). Nevertheless, the ceramic appears to be consistent, although in a transitional stage, and the stratigraphy is clear. The exposure must be outside the main habitation area of the time, for it was singularly devoid of artifacts other than sherds. There is, however, no question but that the Phase C flint-working tradition continues, and there are indications of excellent workmanship in ground obsidian pendants.

Phase D is defined, entirely on ceramic grounds, as the range exhibiting wares in transition from the Halaf and Halaf-inspired families of Phase C to the ʿUbaid-inspired wares which appear in overwhelming preponderance in Phase E. This transition would seem to have a localized, or at least Syrian, character. In so far as we have evidence available to understand it, it differs in general aspect from the Halaf-ʿUbaid transitional stage of the Tigris drainage area.

It is within Phase D that the first links with the south are manifest. Further exposures of levels representing this phase, when Northwest Syria seems already to be assuming her classic role as bridge between the east and the south, are one of the vital necessities for the understanding of a comparative archeology of the early village ranges.

ARCHITECTURE

The statement made for Phase C (p. 137) applies here, with the emendation that Phase D materials did not appear in trench IV.

POTTERY

In Phase D we see the introduction of certain characteristic new wares. Since it forms a transition between the levels showing Halaf influence and those with a preponderance of ʿUbaid-like painted wares, it is especially unfortunate that this phase is represented by so small a field sorting and so restricted an area. It would be particularly interesting to know definitely at which points within the 4.5 m. depth of Phase D the new elements appear, but the series is too small to provide information of any but the most provisional value.[1] The phase is defined by the following criteria:

1. Limited continuance of Dark-faced Burnished Ware and of the two unburnished subgroups recognized in Phase C. Since new profiles appear in both of these subgroups, they are now treated as separate families, that is, Buff Simple Ware and Cooking-Pot Ware.
2. Appearance of the wiped-burnish technique.
3. Appearance of Red-Wash Ware.
4. Limited continuance of Local Painted Ware.

[1] See p. 30, n. 33, concerning the reservations necessary in the treatment of small series within phases. With extreme reservation it might be possible to say that the wares which continue from Phase C appear to carry through all nine of the 50 cm. layers of Phase D, that the fine-line painted group, the corrugated group, and the transitional monochrome and bichrome groups seem restricted to the lower and middle layers, while the Red-Wash Ware runs from the middle to the upper layers, and the ʿUbaid-like bichrome and monochrome groups appear only in the uppermost layers.

5. Limited continuance of Halaf Painted Ware.
6. Restricted presence of Corrugated Painted Ware.
7. Appearance of small painted groups with peculiar, transitional, motifs, both monochrome and bichrome.
8. Appearance of the ʿAmuq variants of the North Iraq ʿUbaid wares, both monochrome and bichrome.

The pottery is described on the basis of a total selected field sampling of 528 sherds. No reconstructible pots were recovered. An attempt to judge the consistency of so small and variable a sampling could hardly be objective.

Dark-faced Burnished Ware

(8–13% of total selected sherd bulk)

In this small group no particular changes from Phase C were noted. Megascopically the paste is the same. The main bulk is normal, but some of the burnished surfaces show greater luster and in certain cases approach the wiped-burnish effect, where the luster seems due to some agent other than a burnishing tool. The surface color is similar to the Phase C manifestation of the ware, being generally dark gray to black on the burnished areas (e.g. Pl. 82:6), with a smaller proportion of red-orange burnished surfaces.

There is a marked improvement in the degree of firing in this phase. This can best be seen by comparing the oxidation data of Phases C and D.

	Phase C	Phase D
Number of sherds examined	169	55
Complete oxidation	5%	62%
Surface oxidation	30%	11%
Black or dark brown throughout	64%	27%
Black surfacing	67%	67%

This change cannot be attributed entirely to the manufacture of smaller and thinner-walled vessels. Since it does not affect the intentional surface blackening at the end of the firing, both samples having 67% of the sherds so blackened, it probably reflects a change in kiln design or in the method of firing that may be related to the development of painted wares. Improvement in firing must be noted as an important step in ceramic development.

The sherds are even more fine-grained and have a better surface gloss than those of Phase C, possibly because the sampling may have come from smaller vessels.—Matson

The profiles shown on Figure 121 (also Pl. 16:6) are known in Phase C (cf. Figs. 105–7) and exhibit no new features. One of the several pattern-burnished sherds (Fig. 122:2, Pl. 82:6) has a motif which is essentially a copy of one normal in painted wares: bands of pendent crosshatched triangles. Finally, a single example with shallow but unmistakable fluting appeared (Fig. 122:1, Pl. 16:10), on a small black-faced sherd.

Buff Simple Ware

(6–11% of total selected sherd bulk)

This ware resembles the finer buff-colored Phase C subgroup of the Dark-faced Unburnished Ware (see pp. 141 f.), but with the addition of certain new details in profile. It can be observed, even in this small sampling, that the paste is now somewhat cleaner, in about half of the pieces (especially in the new profiles) resembling that of the Local Painted Ware even more closely than that of the Dark-faced Unburnished Ware. The other half still shows the somewhat coarser and often not completely oxidized type of the unburnished ware. The vessels were handmade. The paste is light orange-buff to orange-buff. The surface is the same in color, wet-smoothed and sometimes self-slipped.

The forms indicated by the sherds show straight-sided bowls (Fig. 123:3), hemispherical bowls with incurving rim (Fig. 123:4), low bowls with projecting molding (Fig. 123:5; cf. Fig. 111:9) and two variants, one small and simple (Fig. 123:1) and one with slightly inrolled lip (Fig. 123:2). Collared-jar rims are also well represented (Fig. 123:6–13). An important new profile is indicated by jars with vertical collar of fairly small diameter and sometimes a pinched loop handle with triangular section (Fig. 123:7, Pl. 17:11). The vertical collar itself is not new (cf. Fig. 47), but here it seems to be stabilized with a diameter of *ca.* 100 mm., and the peculiar handle may be characteristic. Probably correlative to this development is the

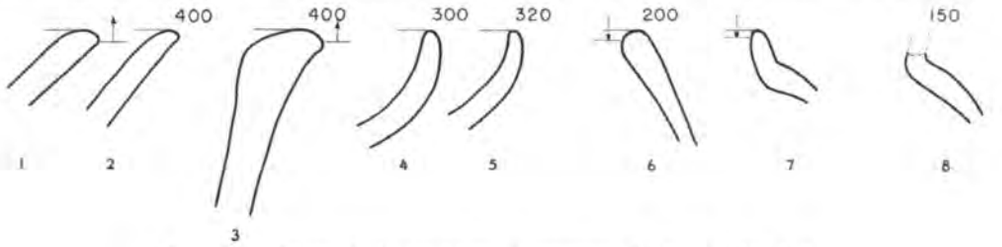

FIG. 121.—PHASE D. DARK-FACED BURNISHED WARE. SCALE, 1:3

FIG. 122.—PHASE D. DARK-FACED BURNISHED WARE. SCALE, 1:3

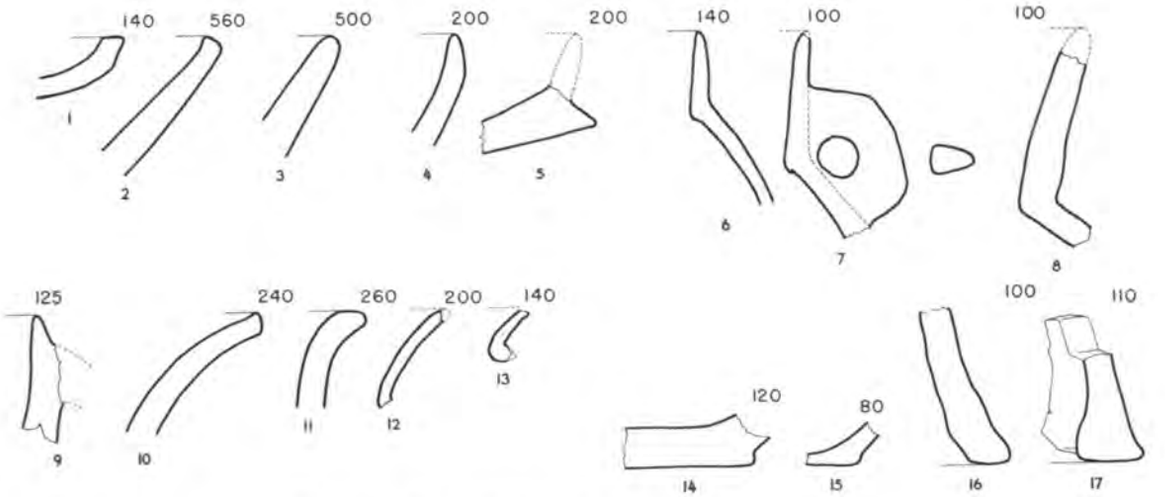

FIG. 123.—PHASE D. BUFF SIMPLE WARE. SCALE, 1:3

appearance of the incurving collar, or bow rim (Fig. 123:9), sometimes in combination with a small loop handle. Bow rims are perhaps foreshadowed in Phase C by tall slightly concave collars (cf. Fig. 111:17), but there is no question about their being at home in Phase D (see p. 161).

Flat bases are found (Fig. 123:14–15); rounded ones probably existed. Several sherds suggest a rather high pedestal base (Fig. 123:16). One was purposely pierced (Fig. 123:17, Pl. 17:10), but there is no evidence for the dimensions and form of the piercing. Nor is there evidence to suggest the form to which these pedestals were appended. Probably they were used with one of the bowl profiles.

Cooking-Pot Ware

(12–17% of total selected sherd bulk)

Approximately three-fifths of the sherds (Fig. 124) show the clay and the profiles of the old Dark-faced Unburnished Ware of Phases B–C (see pp. 77 f. and 141 f., Figs. 52 and 112). A variant (Fig. 124:4, Pl. 17:2) is interesting only in that it has traces of red wash about the lip. A pierced lug (Fig. 124:6) is unique.

The remaining cooking-pot sherds represent a new style, with profiles relatively thin at the lip, in a clay which is characteristically shell-tempered. The paste varies from lighter to darker orange-buff but is only rarely completely oxidized. Varicolored mineral inclusions are sparse to heavy in concentration and coarse to very coarse in size, but broken shell is the normal inclusion. The surface is wet-smoothed and uneven (see Pl. 17:5–7), dull orange-buff to brown-black in color but normally a smoke-mottled gray-orange buff. The sherds indicate only hole-mouth profiles (Fig. 125). The lip is never appreciably thicker than the normal body, and it

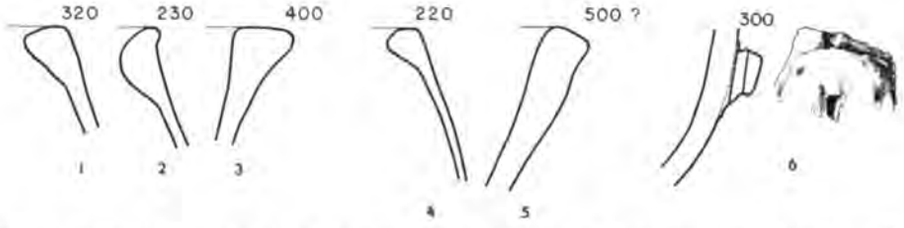

Fig. 124.—Phase D. Old-Style Cooking-Pot (Dark-faced Unburnished) Ware. Scale, 1:3

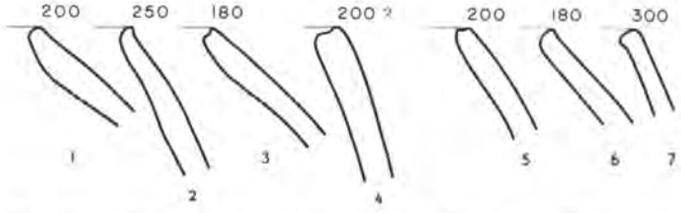

Fig. 125.—Phase D. New-Style Cooking-Pot Ware. Scale, 1:3

is unlikely that split lips (Fig. 125:3–5) and a slight outer or inner bead (Fig. 125:6–7) were so much intentional as the result of overzealous pressure in smoothing the wet pot. In Phase E beading becomes characteristic.

Wiped-Burnish Ware[2]

(34–39% of total selected sherd bulk)

This ware is the most common and, to an extent, one of the most characteristic in Phase D. Basically, it seems to be no more than a variation of the Dark-faced Burnished Ware. All but two of the rim profiles are essentially the same as those of the burnished ware in Phase C, which yielded a sherd with wiped-burnish surface (see p. 139) but possibly only as an intrusive.

[2] This is admittedly a strange term, but it is more or less descriptive. The only already accepted term which comes to mind is "Urfirnis," especially as used for certain "Neolithic" wares in Greece. But "Urfirnis" cannot be used here, first because less than 15% of the sherds have directly comparable surface coloration and sheen and, more important, because use of the word might be taken to imply Aegean connections without the necessary reservations. The similarity of the smaller lot to "Urfirnis" wares is not our own idea alone; we discussed the matter in detail with our colleague Dr. Saul Weinberg, and together we have compared the sherds with specimens of the "Neolithic Urfirnis" wares from Corinth which are in his possession. We found the surface characteristics amazingly similar. But the present statement must not be taken for any more than exactly what it says: that a small group of the Wiped-Burnish Ware has the same surface appearance (in color, smoothness, luster, etc.) as do "Neolithic Urfirnis" specimens from Greece.

The sherds indicate handmade pots, fired more or less to oxidation throughout but with some sections still almost entirely dark from underfiring. The paste varies from light creamy buff to grayed orange-buff, being normally dull orange-buff. There are varicolored mineral inclusions, sparse to heavy in concentration and fine to very coarse in size. Some shell grit appears, and the impression is of a crumbly fabric with little uniformity of texture. In untreated areas the surface is no different from the paste in color. The surface is treated with a thin nonpenetrating (probably ocherous) wash, light red-orange to red-brownish black in color, full red-orange being normal. About a quarter of the bulk shows marked mottling (see Pl. 82:4). The surface is more or less lustrous, quite even, but some abrasion, peeling, and crazing occur. The lustrous quality is probably inherent in the wash or due to a transparent flux added separately;[3] the wiped effect is caused by minute surface striations, such as a brush might leave if the solution applied was fairly thick or such as might be made if something like fur had been used to polish the surface before the solution was quite dry. In highly lustrous examples little wiping is observable, but in no case can the marks of a proper burnishing tool be seen, for all that the ware appears under cursory examination like a normal burnished ware (see Pl. 16:12–15). In general the sherds seem to indicate that somewhat more care was taken to treat all available surfaces of the pots, but some (e.g. Fig. 126:3, 15) show the restricted treatment so common in the Dark-faced Burnished Ware of Phase C.

There is no doubt that this is a local ware and that the forms follow directly from those of the burnished ware of Phase C. The peculiar method of surfacing was probably an accidental invention, but the reader's attention is called to the similar, though less lustrous, surface of the Lustrous Red-Film Ware of Phase B (see p. 82 and Fig. 56). The *floruit* of such surface treatment is certainly Phase D, however; it declines markedly when Phase E begins and the normal burnished ware somewhat reasserts itself for the last time.

This ware continues the Kurdu burnished tradition of manufacture from *serpentine* paste and use of a slip (0.1–0.6 mm. thick), but the surface is no longer blackened. The oxidation pattern is the same as that for the Phases D and E burnished ware. Over one-third of the sherds are of the fine brittle type of paste found in the simple wares in contrast to the more granular-appearing paste common to the burnished ware. The clay is very fine-textured, yet it contains mineral grains up to 1 mm. in diameter and thus appears to be intentionally tempered. Three thin sections showed the paste containing small rounded lumps of red clay such as were first observed in connection with the Judaidah Brittle Painted Ware of Phase B (see p. 80).

The similarity of one-third of the sherds to the brittle type of Coarse Simple Ware of Phases A–B at Judaidah (see p. 70) may point to a continuity of techniques and indicate a relationship between Kurdu and Judaidah. The Kurdu sherds are of the same paste and have the very fine holes probably caused by tempering with cattail fuzz, but they are slipped. They seem to represent a transition between the burnishing and the painting techniques of pottery-making.—MATSON.

As already mentioned, the forms indicated by the sherds (Fig. 126) are largely those of the Dark-faced Burnished Ware of Phase C (cf. Figs. 105–7), even though body walls tend generally to be thinner. Straight-sided bowls, large bowls with thickened lip (Fig. 126:14), flared-collar bowls (Fig. 126:15), and small bowls with sharp change in plane (Fig. 126:2) are not numerous, however. The great bulk of bowls are incurving-rim forms (Fig. 126:3–7) and taller hemispherical forms (Fig. 126:8–11) of which hole-mouth vessels (Fig. 126:16–17) are practically variants. Flared-collar jars (Fig. 126:18–19) are rather rare. The two new profiles indicate beakers with smooth flared curve (Fig. 126:12–13) and bow-rim jars (Fig. 126:20–22). Bow rims especially are characteristic of Phase D. Flattened to low drum bases occur (Fig. 126: 23–25).

[3] Matson did not confirm this. It is his guess that the surfaces may have been mechanically polished and that such polishing would have removed burnishing-tool marks, if they existed.

No secondary features appeared, though possibly some of the bow-rim jars had handles (cf. Fig. 127:5). A bow-rim sherd shows traces of a neck band of dull black paint, but no other indications of decoration appeared.

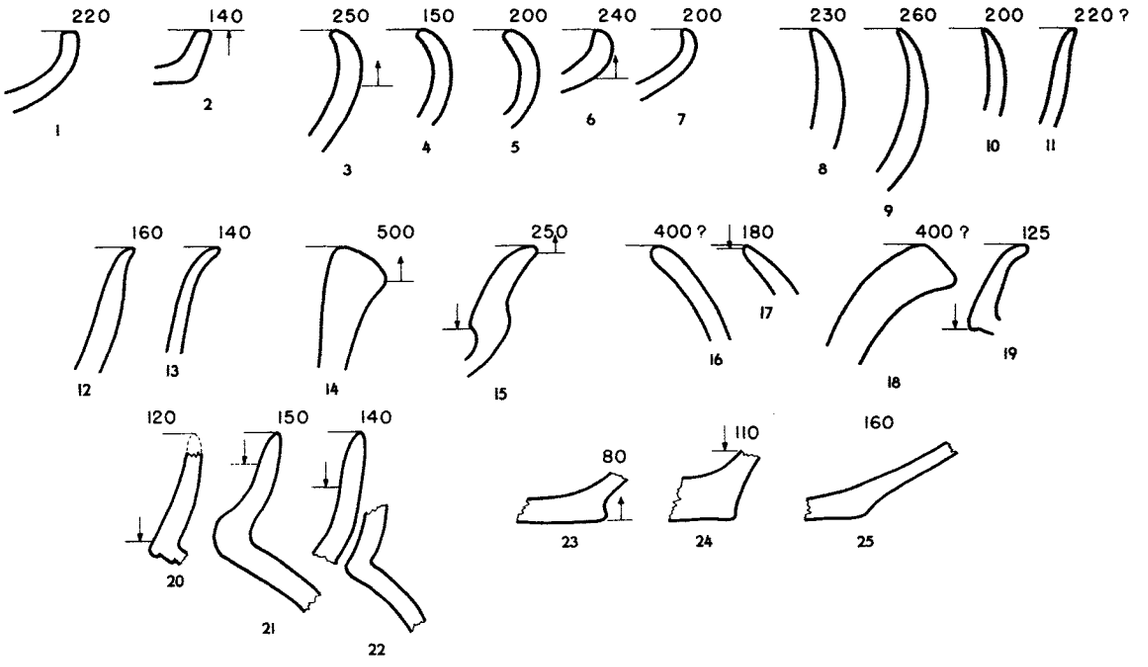

FIG. 126.—PHASE D. WIPED-BURNISH WARE. SCALE, 1:3

RED-WASH WARE

(6–11% of total selected sherd bulk)

These sherds probably represent a variant of the Wiped-Burnish Ware; they seem to be mostly from larger vessels made in slightly coarser clay with approximately the same range of surface color but with no luster. Certain borderline cases with faint or questionable luster are also classified here. Megascopically the clay is the same as that of the Wiped-Burnish Ware. Since most of the sherds are from larger thicker-walled pots, a proportionate increase in both the size and the concentration of mineral inclusions might be expected. However, though there are no finely gritted examples, the bulk of the sherds show inclusions of medium size and concentration. Perhaps slightly more shell is indicated (although some sherds have none at all), and a few cases with traces of vegetable matter appeared. The wash, again probably ocherous, has the same color range as that of the Wiped-Burnish Ware but is duller because of the lack of luster. The normal shade is a somewhat browned red-orange. Normally the wash was thinly applied in a quite uniform film, which, however, usually shows minute striations caused by the brush (or whatever was used to apply it). In a few cases, which were not completely covered by the wash, a light orange-buff self-slip, which apparently was floated up by the primary surface treatment, stands out in sharp contrast to the wash. The result is a streaked effect (Pl. 82:7) similar to that often seen on the Smeared-Wash Ware of Phase I. The gross examinations showed no apparent reason why the Wiped-Burnish Ware should be lustrous and the Red-Wash Ware not so, except that the latter is apt to be very slightly coarser and more porous. But the restricted size of the group makes this a matter more of guessing than of demonstration.

Only jar forms are indicated by the rim sherds. The old collared-jar form is still present (Fig. 127:1–3, Pl. 16:16). One shoulder sherd (Fig. 127:6) certainly indicates a jar, another

(Fig. 127:7), with its small neck diameter, even a bottle. Bow-rim jar sherds are equally numerous in this group (see p. 161) and suggest quite standardized profiles (Fig. 127:4–5, Pl. 16:18). Flat bases (Fig. 127:8–9) may be almost drumlike. Neither the base sherds[4] nor the shoulder sherds show any traces of wash on the inside.

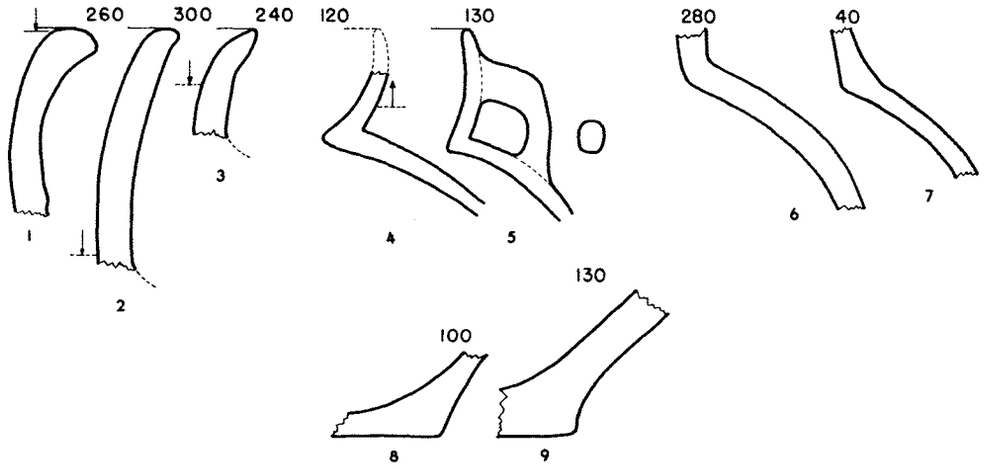

FIG. 127.—PHASE D. RED-WASH WARE. SCALE, 1:3

LOCAL PAINTED WARE

(5–10% of total selected sherd bulk)

This group is a remnant of the proportionately large painted ware series of Phase C which copies Halaf forms and motifs (see p. 143 and Figs. 113–15). A good proportion of these fragments are body sherds showing only bands and swags. The three sherds illustrated show a bowl rim with a motif (Fig. 128:1) which does not occur in Phase C, a profile with sharp change in plane (Fig. 128:2) such as is common in Halaf pottery, and a bottle rim (or pedestal) of small diameter (Fig. 128:3).

HALAF PAINTED WARE

(2–7% of total selected sherd bulk)

These sherds are in nonlocal clay and show the more typical Halaf motifs in more glazelike paint. One sherd (Fig. 128:4) shows a bukranium with what is probably an accidental blob on one horn. A pattern consisting of a frieze of lines pendent from dot-filled diamonds (Fig. 128:5, Pl. 14:20) is not present in Phase C (see p. 148 and Fig. 116). A strange sherd (Fig. 128:6, Pl. 14:23) is classified here because of its cinnamon clay. The dark band and line are in rather glazelike paint, but the rest of the paint is fired to a dull chalky gray-bown. Being thinner, the latter may be no more than a lighter concentration of the darker paint solution; or it may originally have been the Halaf "white" paint. The swag with pendent lines is not a normal Halaf motif, however. Were it not for the clay, this sherd would have been classified under the transitional monochrome group.

CORRUGATED SHERDS

(0–2% of total selected sherd bulk)

Whether Corrugated Painted Ware, already seen in the First Mixed Range (p. 116) and in Phase C (p. 148) should be considered part of the Halaf assemblage (see p. 116) is unclear. In the ʿAmuq it continues into Phase E but is still very scarce. In clay and paint the three Phase

[4] It is possible that such sherds as that shown on Fig. 127:1 refer to pedestal bases.

D sherds (Fig. 128:7–9, Pl. 18:12) resemble the finer sherds of the transitional monochrome group, which is also very small. They are of fine creamy or light orange-buff clay, the surface color being in the same range. The surface was wet-smoothed probably and then treated in such a way as to produce fine shallow horizontal corrugations. Thin dull brownish-black or purplish-black paint was used in bands, lines, triangles, and dots.

Two corrugated sherds without paint (Fig. 128:11) should probably be considered unclassified. They are in a somewhat coarser red-orange buff clay and appear to have a thin red wash applied after the corrugations were made.

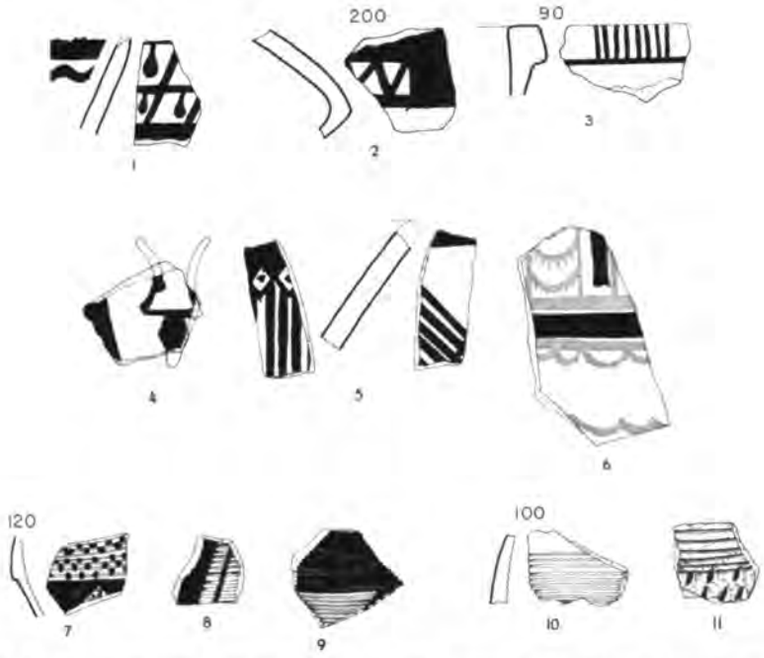

FIG. 128.—PHASE D. LOCAL (*1–3*) AND HALAF (*4–6*) PAINTED WARES, CORRUGATED SHERDS (*7–11*). SCALE, 1:3

TRANSITIONAL PAINTED WARES

MONOCHROME WARE

(0–4% of total selected sherd bulk)

This ware with peculiar motifs is restricted to Phase D (see p. 166, n. 5). It should perhaps be looked upon as showing a West Syrian experimentation with Halaf motifs. This possibility need not imply that Halaf influences are very far removed, nor that the transition which the sherds reflect is a purely local affair. A much larger series—from the ʿAmuq and elsewhere—is needed for a foolproof classification.

Unfortunately this group (like the two following transitional groups) is so small that detailed gross description of the clay would be of little value. The vessels were handmade. The general tendency is toward a fine clean paste, creamy buff to orange-buff in color and rather brittle, with straight fracture and little abrasion. Some examples have varicolored mineral inclusions and even odd bits of shell; these are softer and more crumbly, so that no uniform description can be given. Incomplete oxidation is rare, but several sherds are grayed, even on the surface. The normal surface color is creamy buff to orange-buff (see Pl. 82:5). The paint is thin and dull brownish black. About one-third of the sherds have a marked allover surface sheen; it appears as though a transparent flux (such as possibly made the Wiped-Burnish Ware lustrous) was added, over paint and all, causing minute striations (see Pl. 18:2).

The sherds are mostly body sherds, but several indications of collared rims appeared (Fig. 129:1–2, Pl. 18:1–2). A small sherd with a peculiarly warped surface may indicate an open spout (Fig. 129:3). The body sherds are probably all from jars, though inner surfaces are often quite smooth and may indicate hemispherical bowls.

The motifs (Fig. 129:1–7, Pls. 18:1–4 and 82:5) are all geometric and more or less tectonic. Long concave-sided triangles pendent from the lip are new, as are fretted bands (Fig. 129:1, 3, 6) and allover grouped-dot patterns (Fig. 129:3, 4, 7). Sherds not illustrated show only straight or wavy bands. No motifs are specifically Halafian.

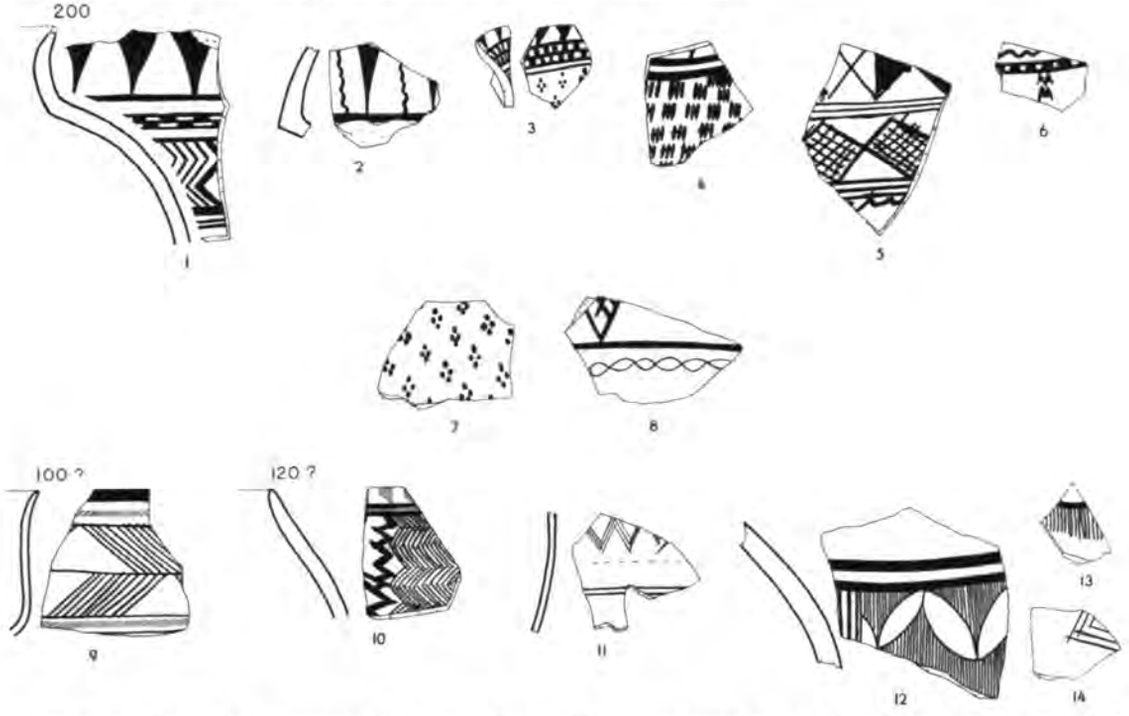

FIG. 129.—PHASE D. TRANSITIONAL PAINTED WARES, MONOCHROME (*1–6*) AND FINE-LINE (*8–14*). SCALE, 1:3

FINE-LINE WARE

(0–2% of total selected sherd bulk)

This group is distinguished from the other transitional groups purely by very fine brushwork. The clay is variable as in the transitional monochrome group. Several sherds show the surface sheen, and two (Fig. 129:9–10) have dull red-orange paint in addition to black. One of the latter (No. 10) has also a creamy-white true slip such as occurs in the ʿUbaid-like Bichrome Ware (see p. 167).

Body walls are generally thin, but there is one fairly thick example (Fig. 129:12). Only two rim sherds appeared (Fig. 129:9–10), from a sinuous-sided cup and a hole-mouth vessel. Inner surfaces of body sherds again are smooth enough to imply bowls.

The motifs are simple and geometric. The use of fine lines for chevrons (Fig. 129:10, 14) and vertically as fill in a negative design (Fig. 129:12) as well as for composite zigzags and fringes (Fig. 129:11, 13 and Pl. 18:8) indicates that this group must have some substance. There is, however, far too little material to suggest anything more.

BICHROME WARE

(0–2% of total selected sherd bulk)

On the basis of similarity of motifs, this minute bichrome strain is included with the transitional painted groups. The clay is variable, as in the transitional monochrome group, though the peculiar sheen was not observed. The surface color is light orange-buff. The brownish-black paint is the same; the second color is fairly thin and mat and is generally bright red-orange (Pl. 82:2–3).

The profiles indicated by the sherds include a collared jar (Fig. 130:1) and probably a bowl, as suggested by the large diameter (Fig. 130:2). The cup sherd and the hole-mouth sherd included in the transitional fine-line group (Fig. 129:9–10) might also have been considered here because of their bichrome decoration.

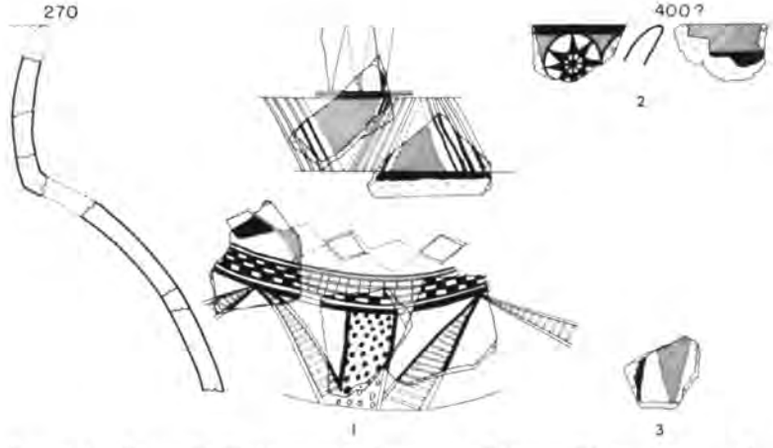

FIG. 130.—PHASE D. TRANSITIONAL BICHROME PAINTED WARE. SCALE, 1:3

The motifs seem to follow those of the monochrome group. The sherds of the collared jar (Fig. 130:1, Pls. 18:5–6 and 82:3) show bands of pendent concave-sided triangles in alternating colors (cf. Fig. 130:3) and a composite fretted band. The band of diamonds in alternating colors and the shoulder panel with its metopic arrangement are peculiar to this phase, so far as is known. The same is true of a star pattern in a negative circle (Fig. 130:2, Pl. 82:2). The remaining sherds have simply plain bands, although there is one other with long pendent triangles in alternate colors (Fig. 130:3).[5]

ʿUBAID-LIKE MONOCHROME PAINTED WARE

(0–5% of total selected sherd bulk)

This small selection, marking the beginning of the ware which is the preponderant ceramic trait of Phase E, appeared in the uppermost meter of the Phase D range. The clay is described under Phase E (p. 183). These examples are normal; about a fourth of them have a thin chalky white slip, a feature which dies out early in Phase E. The same type of slip is even more frequent in the ʿUbaid-like Bichrome Painted Ware (see p. 167).

[5] Apologies are probably due the reader for the attempt to make any classification of these transitional painted groups. The scheme used was not the only one tried but seems to have more substance than any other. If the reader is inclined to see these groups not as separate divisions but as the very first manifestations of the ʿUbaid influence in the ʿAmuq, he is of course at liberty to associate them with the Phase E painted wares, just as he would be justified in considering the whole lot as unclassified material. The latter possibility might be borne out by the apparent variability in the clays involved. However, small as these transitional groups are, there does seem to be a sort of uniformity in the peculiar designs, which are neither proper Halaf nor proper ʿUbaid as seen in Phases C and E and elsewhere. For this reason, it seems only proper to name this material and to present it as we have done, but the reader is charged to view the whole matter with caution until further excavation yields a pertinent series of trustworthy bulk.

The forms indicated by the rim sherds (Fig. 131:1–7) are mostly hemispherical bowls, a typical Phase E profile, with either plain or slightly flared lips. Small open bowls with fairly sharp change in plane (Fig. 131:7) appear in Phase E but are not common (see p. 184).

The motifs are mostly straight bands combined with wavy bands or swags. The body sherds show somewhat more specialized designs, two of which (Fig. 131:9) are remarkable only for the use of the white slip; two others (Fig. 131:8, 10) show new motifs.

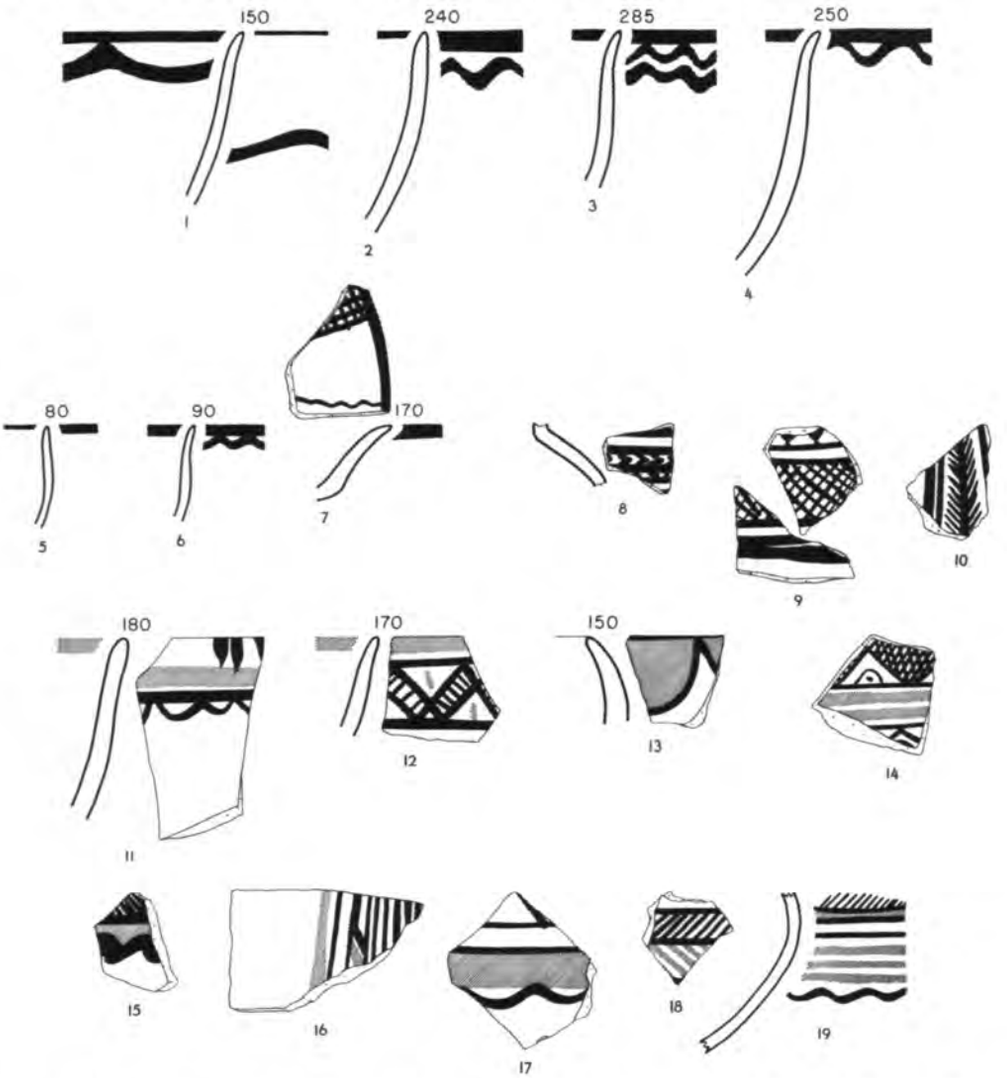

FIG. 131.—PHASE D. ʿUBAID-LIKE MONOCHROME (*1–10*) AND BICHROME (*11–19*) PAINTED WARES. SCALE, 1:3

ʿUBAID-LIKE BICHROME PAINTED WARE

(0–5% of total selected sherd bulk)

These sherds also are recognizable in the main on the basis of their Phase E similarities. The clay and paint are normal to the Phase E counterparts (see p. 201), but almost half of the examples have a thin creamy or chalky white slip.

The rim sherds indicate only normal Phase E type bowl and hole-mouth beaker profiles (Fig. 131:1–3). The decorative scheme shows at least some tendency to border red areas with black. Bands with swags, bands of oblique hatched rectangles, and the eye motif (Fig. 131:11, 12, and 14 respectively; also Pl. 18:15, 22) are known elements of Phase E; other designs (Fig.

131:15–19) are certainly in the E tradition. A hole-mouth rim (Fig. 131:13, Pl. 18:14), of Phase E type clay and with white slip, shows a motif unique in the ᶜAmuq so far as it is known at present, but it seems most reasonable to include it here.

It should now be evident that there is a distinction to be found between the motifs of the ᶜUbaid-like wares and the peculiar motifs of the transitional painted groups (pp. 164–66). Small as the latter groups are, it is possible to say that they precede the ᶜUbaid-like ware stratigraphically, a fact which substantiates the distinction. The question occurs as to where Phase E, that is, the ᶜUbaid period proper, should be considered to begin. The division is made, more or less arbitrarily, at the 5.0 m. depth in Kurdu trench I; above this ᶜUbaid types assume substantial proportions, and the more characteristic Phase D elements disappear.

BAKED-CLAY OBJECTS

Five clay objects were accounted for in the Phase D range of Kurdu.[6] All appear to be made of the clay of the Buff Simple Ware (see p. 158), which persists from Phase C through Phase E on Kurdu, but the two molded objects (Fig. 132:2–3) are fire-darkened to dull gray-black.

Three potsherd disks with piercings (d. *ca.* 5–8 mm.) may be classed as spindle whorls (Fig. 132:1). There is also a sling missile (Fig. 132:2) not significantly different from the Phase C example. An elongated tail-like fragment of poorly baked clay (Fig. 132:3) is not classified.

FIG. 132.—PHASE D. BAKED-CLAY OBJECTS. ACTUAL SIZE

FLAKED STONE OBJECTS

The number of flint (53) and obsidian (17) artifacts representing this phase is far too small to permit an adequate description of the industry. Except for an object possibly intended for use as a javelin head (see p. 171), no projectile points were found.

FLINTS

SICKLE BLADES

Although sickle blades (Fig. 133:1–5) form a large proportion of the tools, their number is scanty (only 24 examples). Some of the types found in Phases C and E are missing, probably by default. As in Phase C, the sickle blades are on the whole rather broad and long. Almost all have some retouch in addition to that on the working edge. The retouch is almost entirely on the upper face. Only five have diagonal ends. The following types occur.

[6] Not including two objects, which were discarded without being catalogued, described in the register as a nail (K105) and a hollowed-out head (K106).

1. Broad and fairly long sickle blades, steep retouch on back and ends, one or both of the ends diagonal (5 examples). Largest 55 × 20 × 5 mm. (Fig. 133:1), smallest 45 × 18 × 4 mm., average 51 × 20 × 5 mm. Figure 133:1–2.

   In two examples the oblique end curves into the back (Fig. 133:1); in the second example it is the lower end that splays out to the working edge, while the upper end is merely snapped and not retouched. In the other three cases the oblique end makes a definite angle with the back. In one (Fig. 133:2) both ends are slanted in the same direction. (The obliqueness of the ends is not so apparent in the drawing as in the object itself.) In the second example the oblique upper end slants down to the working edge. In the third example the upper end is straight, and the lower end slants up to the working edge. In both of these cases the working edge is thus somewhat shorter than the back. The fine irregular denticulation in all five examples is made by upper-face retouch. In only one (Fig. 133:1) is the denticulation deeply faceted. Except in one (Fig. 133:2), the steep retouch is fairly rough.

2. Short and slender sickle blades, steep retouch on back and some ends (4 examples). Largest 49 × 13 × 4 mm. (Fig. 133:3), smallest 26 × 16 × 4 mm.

   The steep retouch is fairly rough. Two examples have steep retouch at one end; otherwise the ends are simply snapped (as in Fig. 133:3). Fine irregular denticulation is formed by upper-face retouch in three examples; two of these are deeply faceted. One sickle blade is slightly denticulated by use only.

3. Sickle blades with additional retouch (not steep) on back and/or ends (11 examples). Largest 55 × 15 × 3 mm. (Fig. 133:4), smallest 28 × 15 × 4 mm., average 37 × 16 × 4 mm.

   These are on the whole rather broad and long, although three are quite short and slender. Three are retouched only along the ends. Two of these have smooth retouch across one end, one on the upper face and the other on the bulbar face. The third has bulbar-face retouch across both ends. Of the other eight, one has rough quite steep retouch (upper face) across the back. The remainder have nibbling retouch (mainly upper face) along the back, but in two of these along only part of the back (Fig. 133:4). One has smooth upper-face retouch across both ends, another on only one end. The denticulation is mainly fine and irregular. Two were used without any retouch. Two are denticulated by bulbar-face retouch, which in one (Fig. 133:4) is rather coarse and irregular. The remainder are denticulated by upper-face retouch; two of these are deeply faceted.

4. Slender sickle blades with no retouch except that formed by denticulation (4 examples).

   Except for one long example (60 × 15 × 5 mm.), these are short and slender (Fig. 133:5) like those of Phases A–B. The smallest is 17 × 12 × 3 mm. The denticulation is fine and irregular, in one case formed by bulbar-face retouch and in another by a combination of bulbar- and upper-face retouch. Two are retouched on the upper face; one of these has nibbling retouch, and the other is deeply faceted.

BLADES AND BLADE SECTIONS

There are three blades (e.g. Fig. 133:6). The eighteen blade sections are divided equally between bulbar tip (Fig. 133:7), middle, and end sections. A few are very narrow, but the majority are fairly broad (average 44 × 19 × 5 mm.). The striking platforms of the blades and bulbar tip sections are all plain and very small. Some are battered. On two of the blades, one of the arcs surrounding the bulb of percussion is very pronounced and forms a small shoulder (similar to that on bulbar face of end scraper shown in Fig. 133:10). The blades and sections are all utilized. Quite a few have nibbling retouch along one edge on the upper face.

BORER

The only borer (Fig. 133:8) is made on a substantial blade section. The working end is formed by smooth steep retouch. One side of the point has retouch on the upper face, and the other side has bulbar-face retouch. The point is sharp and slightly hooked. A bit of nibbling retouch, worked on the bulbar face, extends the entire length of both edges.

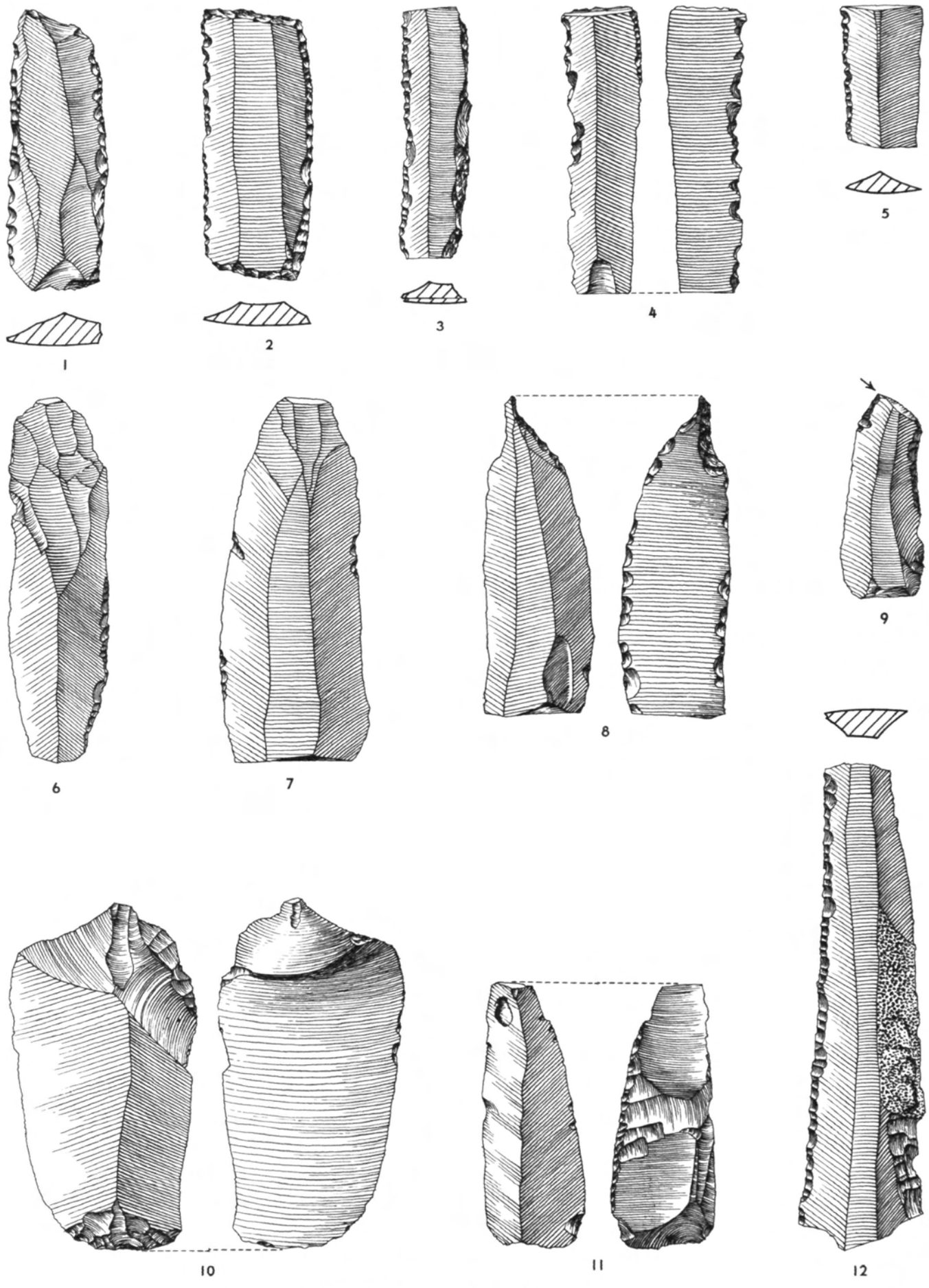

Fig. 133.—Phase D. Flints. Actual Size

GRAVER

This is an oblique straight angle graver formed on a blade section (Fig. 133:9).

SCRAPERS

One scraper, made on a large flake, has rough steep retouch along one side. The other two examples are end scrapers. One is on a broad bulbar section with small plain striking platform; the opposing end is steeply retouched into a scraper. The second (Fig. 133:10) is on a large flake, which has rough steep retouch at one end. The striking platform is small and plain. The bulbar face has a decided shoulder at one of the arcs below the bulb of percussion. (Two blades show the same trait.)

FLAKE

The only flake is small and not retouched, but its edges are worn by use.

VARIOUS TOOLS

One long blade section (Fig. 133:12) has nibbling, almost fluting, retouch all along one edge. This edge is fairly sharp, a fact which indicates that the retouch was not intended as a blunting action. The other edge shows signs of use. A smaller blade section (Fig. 133:11) has some nibbling retouch along one edge and a bit of fluting retouch extending crosswise, all on the bulbar face. There is no retouch on the upper face. Part of the artifact was broken off in antiquity. This object perhaps was intended for use as a javelin head.

Obsidian Artifacts

BLADE SECTIONS

These consist of three bulbar and six middle sections. One section is very broad (33 × 25 × 6 mm.). The average measurements are 20 × 12 × 3 mm. All show signs of use. Three have nibbling retouch.

FLAKES

Most of the seven flakes are small and thin. All were used.

CORE

This is a single-ended blade core, more or less cylindrical in shape. Flakes are removed over only a small portion of the circumference. The striking platform is inclined at an angle of *ca.* 75° to the flake surface.

GROUND STONE OBJECTS

Vessel

The only example is a fragment of a small saucer-like dish of soapstone with carinated side and rounded lip (Fig. 134:1). The base was probably somewhat rounded. The surfaces are smoothly ground.

Celts

No large or medium-sized tools and only two small tools—an ax and a chisel—were found in Phase D. The axlike tool (Fig. 134:2) has a squared-off butt with the surface left rough. The beveling of the two faces is asymmetrical and faintly defined. The working edge is straight and sharp and shows signs of hard usage. The tool is roughly made and has very little polish. The chisel (Fig. 134:3) was probably rectangular in plan. The butt end is broken off. The working edge is sharp and convex. The beveling is poorly defined but tends to be symmetrical. The tool is well polished.

Whorls

A disklike whorl has flattened outer edge and double-bored perforation (Fig. 134:4). The other whorl has a single-bored perforation (Fig. 134:5, Pl. 69:1). Its upper surface is convex, its lower surface slightly concave in part.

Unclassified Object

A small rough piece of chlorite-serpentine rock (K126) is more or less round in plan and hemispherical in section (d. 35, t. 15 mm.). It is unworked except for borings made from each surface on a line with each other; the perforation was never completed, however.

Pendants

Both pendants are of obsidian, ground into shape. A long cylindrical specimen (Fig. 134:6) tapers slightly from the lower, flattened, end to the upper end. Identical small areas surrounding the outlets of the double-bored perforation are beveled by grinding. A fragmentary pendant (Fig. 134:7) is equally well made. The transverse section is lenticular, and the plan may have been oval. Both surfaces are smoothly ground and slightly convex. The intact edge is very thin but rounded.

Stone Identifications

VESSEL

K125 soapstone (Fig. 134:1)

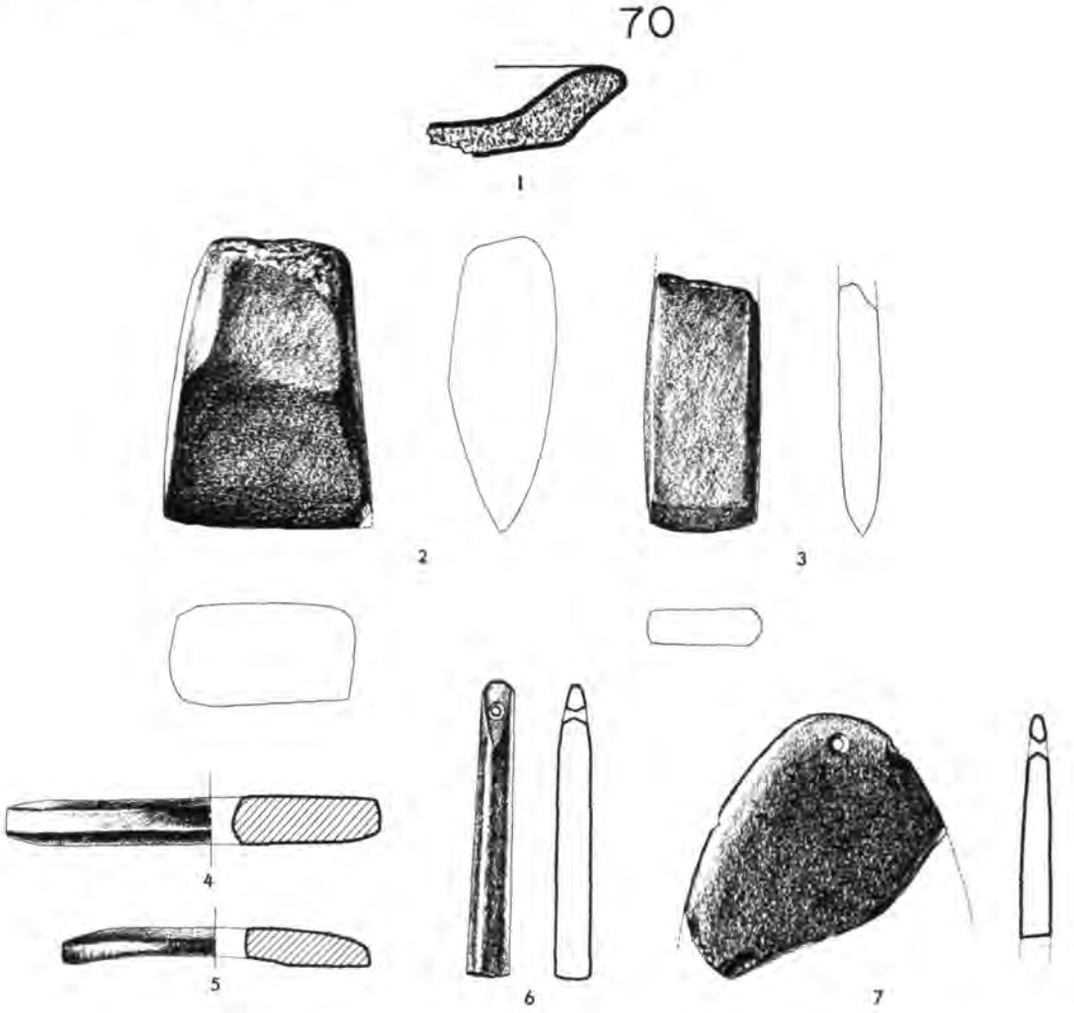

Fig. 134.—Phase D. Ground Stone Objects. Actual Size

CELTS

K101 diabase, somewhat chloritized (Fig. 134:2)
K102 magnesium-rich fibrous amphibole, $n_a = 1.608$ (Fig. 134:3)

WHORLS

K124 soapstone containing talc and chlorite (Fig. 134:5, Pl. 69:1)
K172 calcareous low metamorphic schist (Fig. 134:4)

UNCLASSIFIED OBJECT

K126 chlorite-serpentine rock

PENDANTS

K91 rhyolitic obsidian, n = 1.484 (Fig. 134:6)
K103 rhyolitic obsidian, $1.496 < n < 1.500$ (Fig. 134:7)

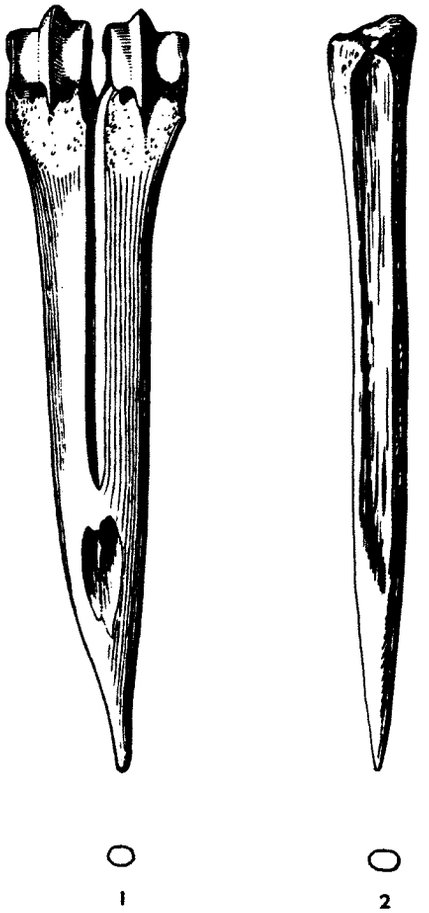

FIG. 135.—PHASE D. BONE AWLS. ACTUAL SIZE

WORKED BONE OBJECTS

Only two worked bone objects were found. Both are awls made on metapodials. In one (identified by Mrs. Foss as goat) the whole thickness of the bone is used (Fig. 135:1, Pl. 72:4). The smoothing process is confined to the lower end, which is ground and polished to form a slender sharp point. Much of the surface above the point is polished from use. The other awl (Fig. 135:2, Pl. 72:14) is made on a quarter of a metapodial (split lengthwise), with the articular surface retained as butt. The whole implement is highly polished from use. However, the main work of shaping is confined to the slim sharp point.

BURIAL

K S 1 is the open burial of a small child on its left side (Pl. 79 *E*). It was near the center of trench I, 5.5 m. below the surface. The sacrum-to-atlas direction was 60° east of north. The head lay on the left parietal, and the face looked down on the chest. The left arm was more or less straight, with the hand under the toes; the right arm was bent, with the hand under the knees. The legs were abruptly flexed, with the knees high. The bones were in very friable condition and were not sent to Chicago; there are no physical data. The scapula of a medium-sized animal (K100) had been laid against one knee of the child; there were no other *Beigaben*.

NONARTIFACTUAL MATERIALS

Mollusca

Murex (*Truncularia*) aff. *trunculus* LINNÉ, a fossil example of the type of form from which Tyrian purple dye was extracted (from Kurdu I, 6 m.).

Leguminaia wheatleyi LEA, a fluviatile form (from Kurdu I, 4–5 m.).

Vertebrata

Wild: deer.

Domestic: pig; sheep (or goat); ox.

Homo sapiens: K S 1, too fragmentary for study.

VII

PHASE E

INTRODUCTION

PHASE E, the stage of the full influence of the North Iraq variant of the ʿUbaid assemblage, was encountered in trenches I–III (but see n. 1) on Kurdu, from the surface to a depth of 5.0 m., in exposures totaling 153.5 sq. m. (see p. 18 and Figs. 13–14). Such observations of stratigraphy as the speed of our operations allowed indicated regularity. The material is consistent. The sherd bulk consists preponderantly of ʿUbaid-inspired Monochrome Painted Ware, locally produced. The ceramic also exhibits the final stage in the ʿAmuq of the Dark-faced Burnished Ware tradition, which begins in Phase A. The phases C–D flint industry continues, with some elaboration and slight differentiation.

We are not sure of the very end of Phase E or of the character of transition (if any) from Phase E to Phase F. Although pieces of ʿUbaid-like painted pottery were isolated in the First Mixed Range sherd samplings, we nowhere had Phase F materials conformably above Phase E materials. The uppermost layers of Kurdu represent Phase E; the mound was never occupied again. The evidence of the final aspect of Phase E (see p. 512), and of whatever may have happened at the point of contact with Phase F, is probably buried deep within Judaidah (see pp. 512–13).

ARCHITECTURE

Observations on the architecture of Phase E are subject to the same reservations that hold for the deeper (Phases C–D) Kurdu operations (see p. 18). Since the Phase E exposures were considerably larger, however, various features were noted in this range which were not apparent in the more restricted exposures of Phases C–D.

Floors, or blackened debris lines, occurred within the first 50 cm. below the surface in trenches I–III.[1] These trenches were, in fact, apparently consistent with one another down to such depths as II and III were taken.[2] No *libn* was observed in the first 1.5 m.; a simple circular storage pit proceeded from 50 cm. to 1.5 m. in trench I, and a similar pit in III went from 1.5 to 2.0 m.

At 2.0 m. traces of a stone wall foundation crossed trench II; it was not very straight and varied in width from 40 to 75 cm., being made of undressed field stones.

In trench I the layers from 1.5 to 2.0 m. contained numerous narrowly separated gray ash lines. Some of these showed reed impressions, groups of which all ran in one direction as if the reeds had formed part of walling or flooring, but without trace of interweaving. There was also a low and fragmentary run of *libn* wall, L-shaped in plan (so far as the operation exposed it) and oriented roughly to the cardinal points (Fig. 136). From 2.0 to 5.0 m. (where trench I began to yield Phase D materials) the debris was a fairly uniform dark material, with numerous "floors." Around 2.5 m. there were traces of broken reddish *libn* and a short bit of straight wall not over three courses high. At 3.5 m. several short and fragmentary pieces of straight walling appeared, evidently made of *tauf* rather than *libn*. More bits of such walls appeared around the 4.0 m. level and just below it; these were not preserved to any great height or length, but seemed intended as straight, and even an occasional corner was preserved.

[1] The uppermost 50 cm. layer of trench IV was not clearly stratified, and there was a mixture of Phases C and E sherds in the sortings (see p. 18).

[2] Trench II was discontinued at 2.0 m., trench III at 1.5 m.

Not many stones were encountered at any depth and no purposely hardened floors. Any post-holes would have been missed in the type of operation involved.

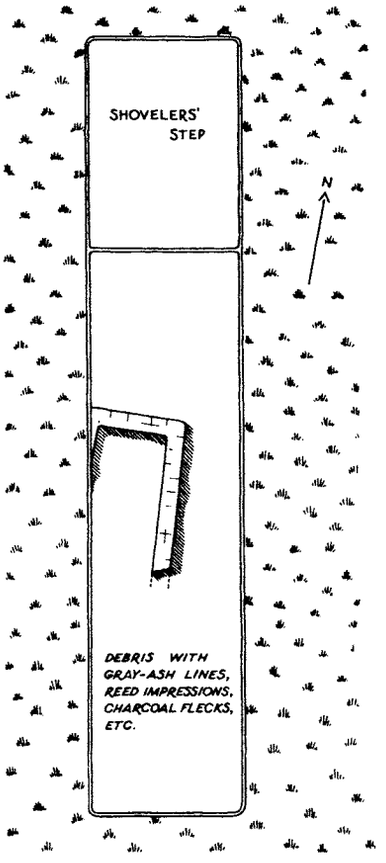

FIG. 136.—PHASE E. PLAN OF KURDU TRENCH I, 1.5–2.0 M. DEPTH. SCALE, 1:200

POTTERY

Phase E is defined as beginning at that depth in Kurdu where ᶜUbaid-like painted pottery appears in substantial quantity. Such pottery begins to appear in the upper part of the Phase D range, but at the 5.0 m. depth (in trench I) it fairly suddenly assumes a proportion of somewhat over half the total sherd bulk, and Phase E is defined as beginning at this depth. It extends up, with its ᶜUbaid-like pottery, to the surface of the mound. Because the Kurdu operations were done in 50 cm. layers rather than in respect to floors, it did not seem pertinent to seek possible differences between the materials of the different trenches (see p. 18), and these are not treated separately.

Since trench I was maintained at an area of 60 sq. m. to a depth of 5.0 m., it may not be too dangerous to give some indication of changes within the main ceramic series during the range of Phase E depths. This will be attempted mainly with reference to the ᶜUbaid-like painted pottery. On the other hand, there are indications of the persistence of some of the older series, these being relatively rare in proportion to the total sherd bulk. They are subject to the same reservations as are the small series in Phase D (see p. 157, n. 1), and they can be considered only en masse. It is even pertinent to reckon that some of them are completely extrusive within the Phase E range of depths, as noted in the descriptions. However, so far as the ᶜUbaid-like Monochrome Painted Ware, the Simple Ware, and the New Cooking-Pot Ware are concerned, the field selection gives a very adequate impression of consistency.

The phase, then, is defined ceramically as follows:

1. Limited continuance of Dark-faced Burnished Ware. Since these sherds make up 5–9% of the total selected sherd bulk, it is unlikely that they are extrusive, as seems to be substantiated by the new features which appear (see n. 3).
2. Continuance of cooking pots with thickened rims in the Dark-faced Unburnished Ware, which begins in Phase B. Probably to be considered *in situ* along with the Dark-faced Burnished Ware.
3. Stabilization of the cooking-pot series which begins in Phase D.
4. Adoption in a simple ware series, apparently continued from Phase D, of clay and profiles more normal to the ᶜUbaid-like painted wares of Phase E.
5. Appearance in preponderant proportions (72–77% of total sherd bulk) of ᶜUbaid-like Monochrome Painted Ware, which begins in upper Phase D.
6. Continuance (with reservations) of ᶜUbaid-like Bichrome Painted Ware, as a small series.
7. Presence of a minute proportion of Corrugated Painted Ware, possibly extrusive, though this ware is only sparsely represented in Phases C–D also.

The Phase E pottery is described below on the basis of a total selected field sampling of 2,269 sherds. There are also seventeen reconstructible pots.

Dark-faced Burnished Ware
(5–9% of total selected sherd bulk)

There is no evident change in the clay from that normal to this ware in Phase C on Kurdu (see p. 138).[3] The surface is generally grayish; not more than *ca.* 10% of the sampling is either good shiny black or good red-orange. Several of the red-orange examples have the washed appearance of the Wiped-Burnish Ware surfaces, but marks of a burnishing tool are apparent.

The oxidation pattern of the sherds noted in Phase D (see p. 158) also holds in E, but there is a drop in the percentage of intentional surface blackening from 67 to 46%. Over a third of the sherds are now of a sandy texture, whereas previously over 90% were very fine-grained. The ware is still made of the *serpentine* paste.—Matson.

The forms represented in the sampling are mainly those seen in the Phase C assemblage of the same ware: plain bowls (Fig. 137:1–3) and their variants (Fig. 137:4–8, Pl. 16:7), incurving bowls (Fig. 137:9–10), hole-mouth (Fig. 137:11) and collared (Fig. 137:12–14, Pl. 16:8) jars. One jar sherd (Fig. 137:13) is burnished all over both surfaces, regardless of how awkward it must have been to apply the burnishing tool on the inside of the shoulder.

There are, however, several sherds which indicate quite remarkable forms. One (Fig. 137:17) undoubtedly is from a sinuous-sided bowl with some sort of pedestal base. Its orientation as a body sherd in the drawing is assured by the fact that it is burnished on both surfaces, for pedestal bases (Fig. 137:18) do not have burnish on the inner surface. Another sherd (Fig. 137:19) indicates an open bowl with fairly abrupt change of plane outside and with some form of higher ring or pedestal base, which evidently broke away before the base was ground flat to give the present low ring effect. Figure 137:20 shows a section and plan (looking up) of a

[3] It is possible that the whole group is extrusive. That this possibility is unlikely and that the ware was actually produced during Phase E seems to be indicated by the proportionate size of the series and by the appearance of new elements in profile and decoration. These, too, might be explained away as extrusions by the claim that they were not found in the deeper horizons because of the restricted size of the samplings there and because of normal accidents of deposition and excavation. The most conclusive argument for the ware being in place in Phase E is that, if it is extrusive, there should also be a considerably larger proportion of Wiped-Burnished Ware extrusive from the immediately underlying levels of Phase D. This is exactly what there is not. Therefore, we feel that the normal burnished ware as seen in Phase C, largely displaced in Phase D by the Wiped-Burnish Ware, staged a final comeback in Phase E. This little selection as seen on Fig. 137, then, is the end of a series which we know earliest in Phase A (see Matson's remarks on p. 139 on the clay of the Kurdu ware).

peculiar fragment which seems to be part of a vessel which probably had a hollow lug on either side at the bottom. A photograph of the fragment, which would be one of the lugs, is shown on Plate 16:11 (looking down). The inner surfaces are too rough for a scoop.

Decoration includes pattern burnish, in plain oblique hatching and recumbent-chevron bands (Fig. 137:22–23, Pl. 16:9), as well as applied plastic bands on a bowl sherd (Fig. 137:8, Pl. 16:7) and on a hole-mouth or collared-jar sherd (Fig. 137:15). There is a sherd with plain stick-poked impressions all over an unburnished surface (Fig. 137:21), and a flat base (Fig. 137:16) has an incised band near the bottom. A sherd which is burnished over a shallowly grooved surface (Fig. 137:24), with an effect superficially like pattern burnish, is unique, and little can be made of it.

Old Cooking-Pot Ware

(0–4% of total sherd bulk)

There is a small proportion of the old style bowls and hole-mouth vessels with thickened rims in the clay normal to the Dark-faced Unburnished Ware of Phases C and D on Kurdu. Such pots begin at least as early as Phase B on Judaidah (see pp. 77 f.). Figure 138 shows the profile range, Plate 17:4 the surface.

New Cooking-Pot Ware

(1–6% of total selected sherd bulk)

This ware, which first appears in Phase D (see p. 160), is now normal for cooking pots from the point of view of proportions. The clay is dirty brown-orange buff in color, the core being generally gray or black from incomplete oxidation. The mineral inclusions are very coarse varicolored pebbles. About half of the sampling has shell as well as mineral inclusions, the other sherds being about equally divided between shell inclusions only and mineral inclusions only. The concentration is sparse to heavy, heavy especially if shell alone is used. The surface is simply wet-smoothed but fairly even, although shell inclusions or shell pits are usually noticeable (see Pl. 17:5–7). There is some abrasion of edges, the fabric being not very hard or tough. Surface color varies from dirty orange-buff to smoked brown-black.

The sherds indicate hole-mouth pots *ca.* 200 mm. in diameter as by far the most typical (Fig. 139:2–11). In general the lip is slightly flattened or outrolled, so that a characteristic bead is formed on the outer surface (Fig. 139:2–8). Plain lips occur (Fig. 139:9), however, as well as a considerable variety of slightly treated lips. Split lips (Fig. 139:10) are less common here than in Phase D. Some bases were probably rounded, but both flattened and slightly raised flattened bases occur (Fig. 139:12–13). One sherd (Fig. 139:1) represents a bowl profile normal to the painted wares of this phase. The only known secondary features are looped, pierced-lug, and drooping-lug handles (Fig. 139:14–16). The loop handles may be of the inserted-plug type (see p. 181).

Wiped-Burnish Ware

(0–3% of total selected sherd bulk)

This is one of the groups which appears in such minute proportion that its presence can best be explained as extrusion from Phase D (see p. 176). The sherds show nothing new in clay or profiles, but marks of a burnishing tool are apparent on about half of the examples (see Pl. 16:17, 19).

Red-Wash Ware

(0–3% of total selected sherd bulk)

This group likewise can best be explained as extrusive from Phase D. The sherds show nothing new in clay, surface, or profiles.

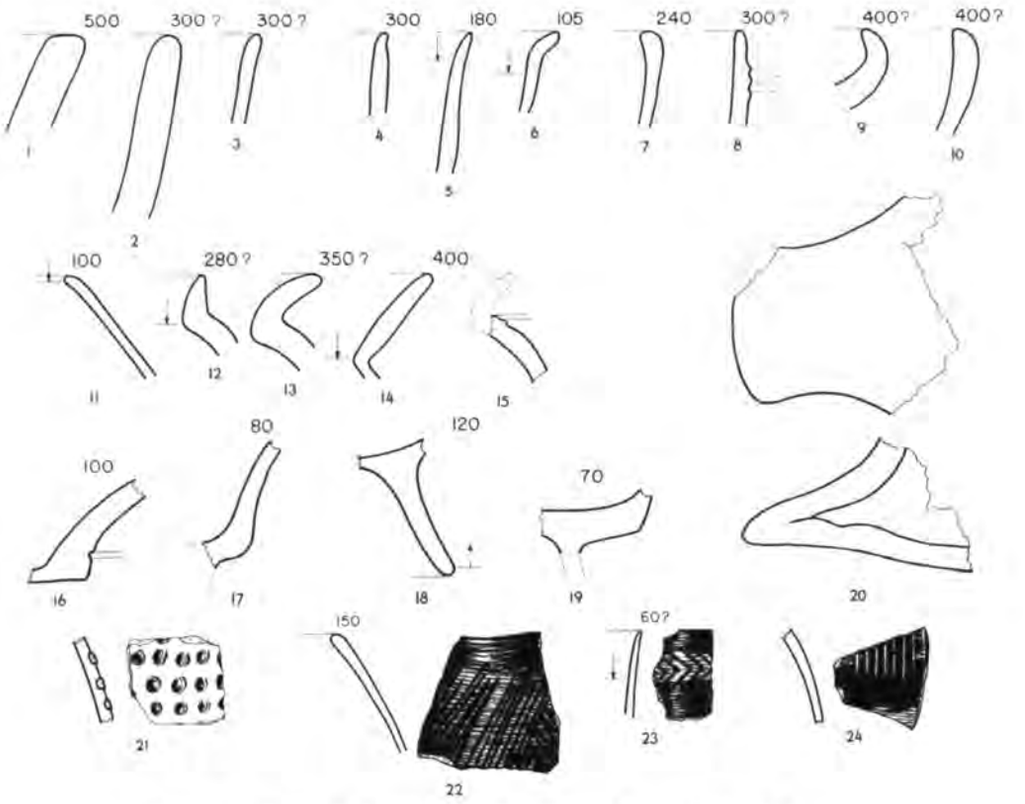

FIG. 137.—PHASE E. DARK-FACED BURNISHED WARE. SCALE, 1:3

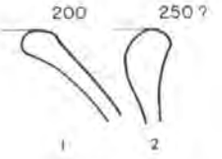

FIG. 138.—PHASE E. OLD-STYLE COOKING-POT (DARK-FACED UNBURNISHED) WARE. SCALE, 1:3

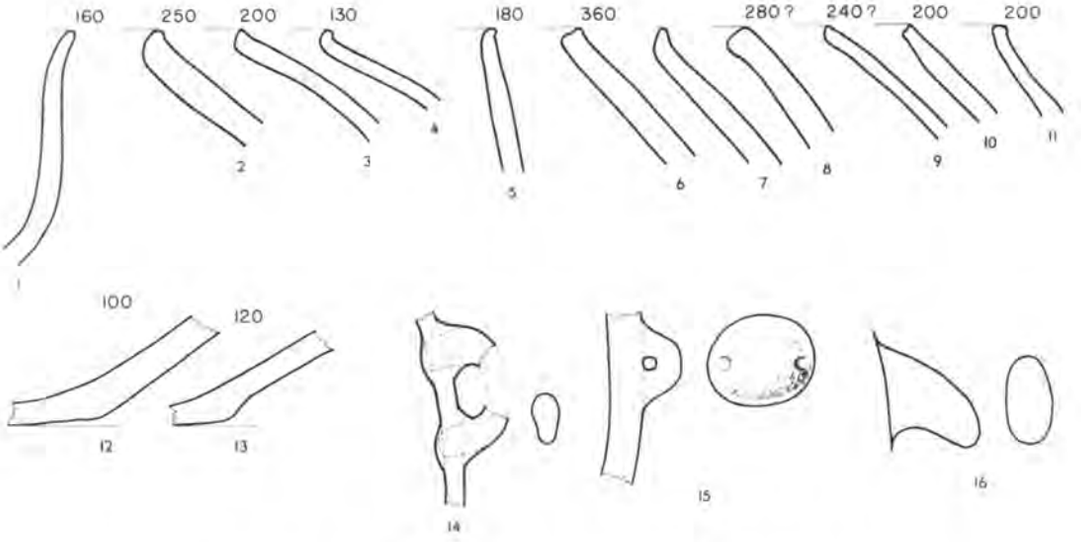

FIG. 139.—PHASE E. NEW-STYLE COOKING-POT WARE. SCALE, 1:3

Local Painted Ware

(0–3% of total selected sherd bulk)

The examples of this ware are far too scarce to be considered *in situ* in Phase E and must be counted as extrusions from below. Most of the sherds are normal to the ware. One sherd (Fig. 140:1, Pl. 18:10) is classified loosely in this group, for it bears carefully drafted motifs of types known in the Samarran painted style (see p. 116). The clay appears to be local, and the paint is semiglaze-like. A second sherd (Fig. 140:2, Pl. 14:13), indicates compressed allover use of the dot-filled chain motif.

Fig. 140.—Phase E. Local (*1–2*) and Halaf (*3–5*) Painted Wares, Extrusive from Below. Scale, 1:3

Halaf Painted Ware

(0–2% of total selected sherd bulk)

This group also is considered extrusive. Normal Halaf sherds with glazelike paint are shown (Fig. 140:3 and 5, Pl. 14:24), and there is an example with glazelike paint but with a strange cramped motif (Fig. 140:4) which can hardly be called normal to the known Halaf painted style.

Transitional Monochrome and Fine-Line Painted Wares

(0–1% of total selected sherd bulk)

These sherds are normal to their groups and are considered extrusive from Phase D. Only one shows the fine-line technique.

Corrugated Painted Ware

This group (4 examples) is so small that it would be considered extrusive were it not for the fact that only minute traces of the ware appear in Phase C (several sherds) and in Phase D (3 sherds). Hence it is impossible to tell whether the ware belongs to one of these phases or to all three.

Fig. 141.—Phase E. Corrugated Painted Ware. Scale, 1:3

Clay, surface, paint, and motifs of the Phase E sherds (e.g. Pl. 18:11) are to all appearances like those of the earlier occurrences. Figure 141:2 shows a flat base, while a shoulder sherd (Fig. 141:1, Pl. 18:7) indicates about the thickest body wall of any of the corrugated pottery of this type yet known in the ʿAmuq.

Simple Ware

(6–11% of total selected sherd bulk)

This group, while it shows (in the lower layers of the Phase E range) some continuation of forms represented in Phase D, is uniformly produced in the standard Phase E buff clay of the ʿUbaid-like Monochrome and Bichrome Painted Wares. A fairly large part of the sherds,

especially bases, may actually be from pots with painted decoration about the rim. Many profile details are alike in the simple and the painted wares, but the number of larger body and rim sherds, as well as two complete bowls, assures the existence of an unpainted series.

The clay is described in complete detail on page 183. Essentially, the sherds indicate hand-made pots of neutral buff to orange-buff paste, usually but not always completely oxidized. The surface (see Pl. 17:12–15, 18) is wet-smoothed, even, and of the same color as the core, although naturally less fresh looking. A fair proportion of the sherds seem tougher and show sharper cleaner fractures than do those of the painted wares, but the clay is the same.

The sherds in this group are like the monochrome and bichrome Phase E wares in their physical characteristics and are treated with the monochrome (see p. 183).—MATSON.

The forms indicated by the sherds, with a few exceptions, occur in the ʿUbaid-like Monochrome Painted Ware also (see pp. 183 ff. and Figs. 144–45). The largest number of rim sherds, about a quarter of the total bulk, indicate collared jars (Fig. 142:17–29, Pl. 17:12, 14). The other profiles, except a unique little carinated bowl (Fig. 142:9), appeared in about equal, but minor, quantities and might be considered part of the painted groups, accidentally left unpainted, but for the strong strain of unpainted collared-jar rims.

The sherds indicate simple more or less straight-sided bowls (Fig. 142:3–4), low bowls (Fig. 142:1–2, Pl. 17:15), one with horizontally pierced lug handle, and gently flared hemispherical bowls (Fig. 142:5–8). The last are very characteristic of the painted series. The small carinated bowl sherd (Fig. 142:9) represents a profile known in the burnished ware as early as Phase B, but its clay seems normal to Phase E. The two complete bowls are more closed forms (Fig. 143, Pl. 19:1–2), one with fairly marked change in plane, which are not represented in the sherd sortings.

Of the hole-mouth jars (Fig. 142:10–16, Pl. 17:13), those with a slight bead at the lip recall the New Cooking-Pot Ware (cf. Fig. 139:2–8). There is a range of flared rims (Fig. 142:26–28), none showing evidence of added clay as with high-collared jars; these represent the earliest general appearance of smoothly flared rims in the ʿAmuq.

The collared-jar rims strongly recall the profiles of Phase D, but bow rims (Fig. 142:22–23) are exceptional. Normally there is a somewhat thinned rounded lip on a fairly vertical collar (Fig. 142:18–21), but there are flared lips as well (Fig. 142:24–25). The collared jars sometimes have a loop handle plugged into holes in the body (Fig. 142:19).

Figure 142:29 shows the rim of a large straight-sided collar(?), Figure 142:30 (Pl. 17:18) the partial profile of a jar with slightly outrolled lip and cylindrical spout. There is also a fragment of a small spoon or scoop (Fig. 142:44).

Bases are flat (Fig. 142:31–33), ring (Fig. 142:35), or low pedestal (Fig. 142:34, 36). As well as the spout and the loop handles mentioned above, the secondary features include both horizontally and vertically pierced lugs (Fig. 142:1, 37) and a narrow ledge handle (Fig. 142:38). There seems to be no uniformity in loop-handle sections (Fig. 142:39–43).

ʿUBAID-LIKE MONOCHROME PAINTED WARE
(72–77% of total selected sherd bulk)

This ware is the standard criterion for Phase E in the ʿAmuq, although it actually appeared in small quantities in the upper range of Phase D (see p. 166). While it appeared in the upper layers of all the Kurdu operations and extended down into the Phase D range in trench I, there is some stylistic evidence from sherds found on other sites during the ʿAmuq survey to show that this Kurdu material does not represent the total range of Phase E in the ʿAmuq.[4]

[4] Some of the material involved is from Karaca Khirbat ʿAli (see pp. 201 ff. and Fig. 159), and some is probably among the ʿUbaid-like painted sherds of the First Mixed Range on Judaidah (see p. 117, esp. n. 11, and Fig. 90). The Karaca

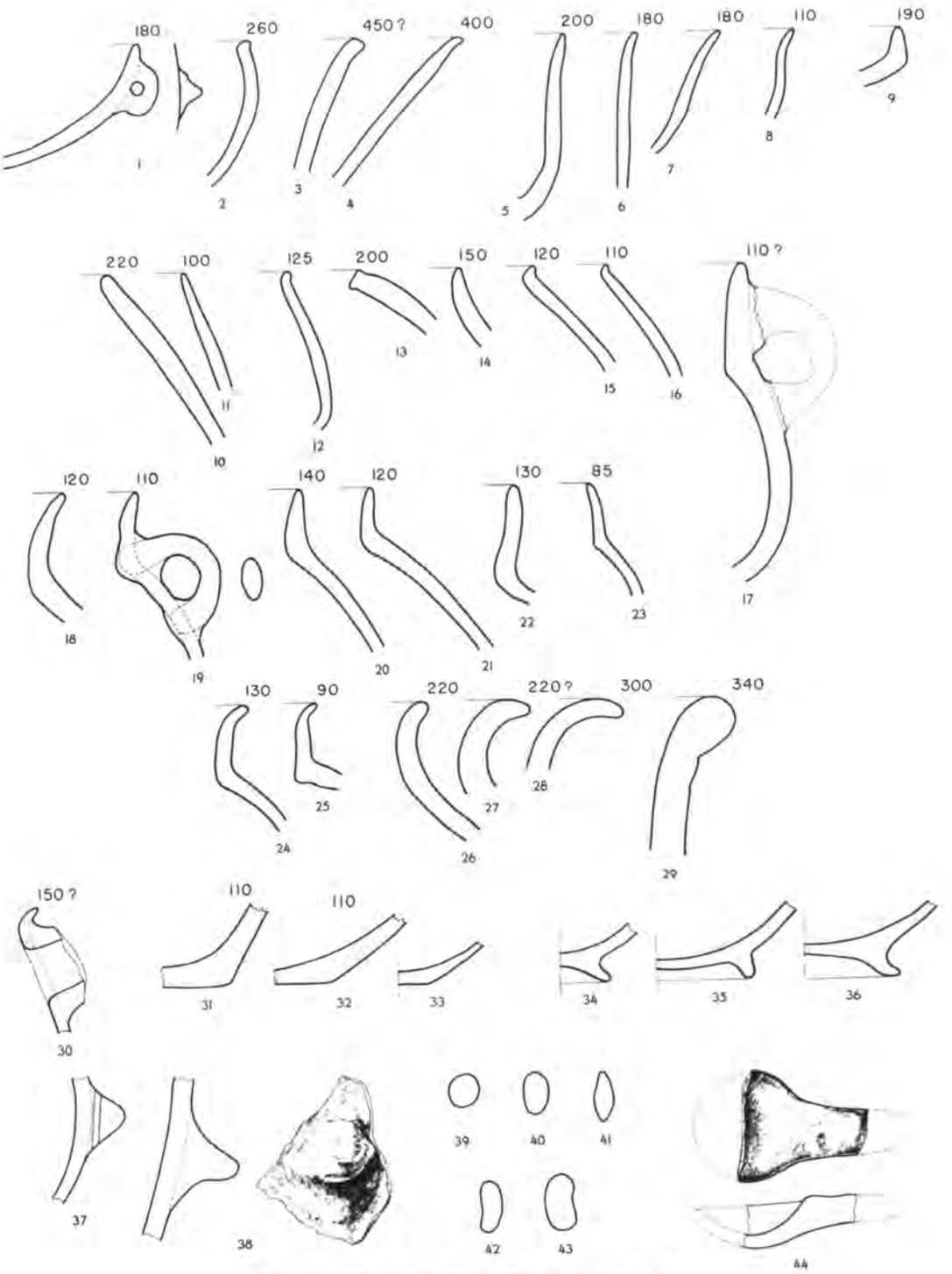

FIG. 142.—PHASE E. SIMPLE WARE. SCALE, 1:3

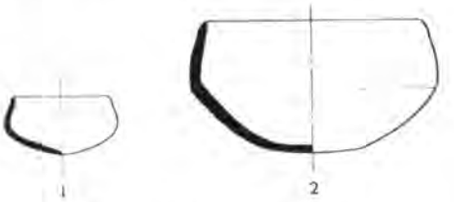

FIG. 143.—PHASE E. SIMPLE WARE. SCALE, 1:5

The clay is exactly that of the Phase E Simple Ware (see p. 181) and the ᶜUbaid-like Bichrome Painted Ware. The sherds indicate handmade vessels, normally completely oxidized, typically of buff paste verging toward either orange-buff or greenish buff. The color extremes are from creamy or light greenish buff to gray-green buff or full orange-buff. The almost vitrified greenish type of fabric said to be common in the ᶜUbaid pottery of southern Iraq is so rare as to be considered completely accidental. Mineral inclusions appear like varicolored sand (including white particles); occasionally there are traces of fine vegetable material and odd claylike lumps. The mineral inclusions are fine (d. *ca.* 0.25 mm.) and almost equally divided between heavy and sparse in concentration. The texture is dense. The fracture is usually smooth and straight; this feature, as well as resistance to abrasion, is especially marked in the sherds with sparse inclusions. The surface has the same color range as the paste, but the color is not so intense, being normally light neutral buff, slightly orange or greenish (see Pl. 83:1, 2, 5). The surface (see Pls. 19–22) is dull but smooth and even, being either wet-smoothed or self-slipped. True slip is rare, but a few sherds from the lower layers have the type of chalky white slip noted in Phase D (see p. 166). Burnishing is not done, and painting is the only decoration. The paint is dull, normally chocolate or grayish brown (Pl. 83:1); it may vary from a rather light chocolate shade (Pl. 83:5) to greenish black (Pl. 83:2). It probably has an ocherous base; it is nonpenetrating and usually thin. There may be considerable color variation in one brush stroke, because of differences in the thickness of application as well as in the intensity of firing. The paint is far too mat to allow confusion with the glazelike Halaf paint.

The pottery is made of very fine-textured *serpentine* type clay that was well fired, two-thirds of the sherds being oxidized throughout. This ware was fired to a higher temperature than were the earlier wares, as is shown by the yellow-green color (only appearing in this clay above 1,000° C.) that was developed throughout the body of 13% of the sherds. The latter probably come from vessels fired in the hottest parts of the kiln, but it is significant that none of the earlier wares show this feature. Forty per cent of the sherds are very fine-textured, while the remainder have a granular structure. The sherds of the latter group contain 16–21% calcite. An iron slip 0.15 mm. thick supplies the painted decoration and varies in color from red to black depending upon the firing conditions. The oxidized color is reddish brown in contrast to the orange-red of the Local Painted Ware of Phase C, probably because of the higher firing temperatures in Phase E. The increase in firing temperature may indicate a change in kiln design or in fuel that can perhaps be attributed to ᶜUbaid influence.—MATSON.

In this series, for the first time, there is a fair representation of complete profiles (Fig. 144, Pl. 19:3–11). A résumé of the typical forms indicated by the rim sherds, with their more important variants, is given on Figure 145. Added details as well as bases, handles, and unusual profiles appear with the painted motifs, which are presented in Figures 146–57.

Khirbat ᶜAli sherds are somewhat enigmatic in that certain of the painted motifs resemble those of the Phase D Transitional Monochrome Painted Ware rather than those of the ᶜUbaid-like painted pottery of Phase E as seen on Kurdu, while the general appearance of the fabric and the painted surfaces suggest Phase E much more than Phase D. The sherds from Karaca Khirbat ᶜAli and some of those from the First Mixed Range on Judaidah show motifs not present in the late Phase D–Phase E sequence on Kurdu. While the bulk of the Kurdu sampling is not so large as theoretically desirable, nonetheless it should be adequate to show the bold motifs of Karaca Khirbat ᶜAli and the Judaidah First Mixed Range if they were present. Since we are bound by the evidence to assume that there is no unconformity between Phase D and Phase E on Kurdu, we can conclude either that there was sufficient local variation within the ᶜAmuq to produce strongly variant contemporary styles in Phase E (which is doubtful) or that the phase actually continued to a time later than that represented by the uppermost Kurdu material. The second possibility is probably the preferable one. For the moment, however, the facts remain that we have little material exposed in the Phase D and Phase E depths and that there is as yet no exposure in the ᶜAmuq which shows Phase E conformably below Phase F and what happened at their point of contact. Full and adequate publication of Woolley's Tell al-Shaikh material should certainly contribute to an understanding of this range (see pp. 512–13).

Low cup-sized bowls (Figs. 144:1–2, 145:1–3, 146:1–21) include a rather sharply angled variation (Fig. 145:1) which seems not to appear until the upper half of the E range.[5] It might also be considered a variation of smaller hole-mouth vessels (Fig. 145:25–26). Larger low bowls or plates almost always have painted decoration on the inner surface (Figs. 145:5–9, 146:23–33). The lip is usually plainly rounded, but one slightly inturned lip is shown and there are occasional examples with a tendency to outrolled lips (Fig. 145:8), a feature also seen in the Phase E Simple Ware (Fig. 142:2). Low bowls with flared rim and fairly sharp

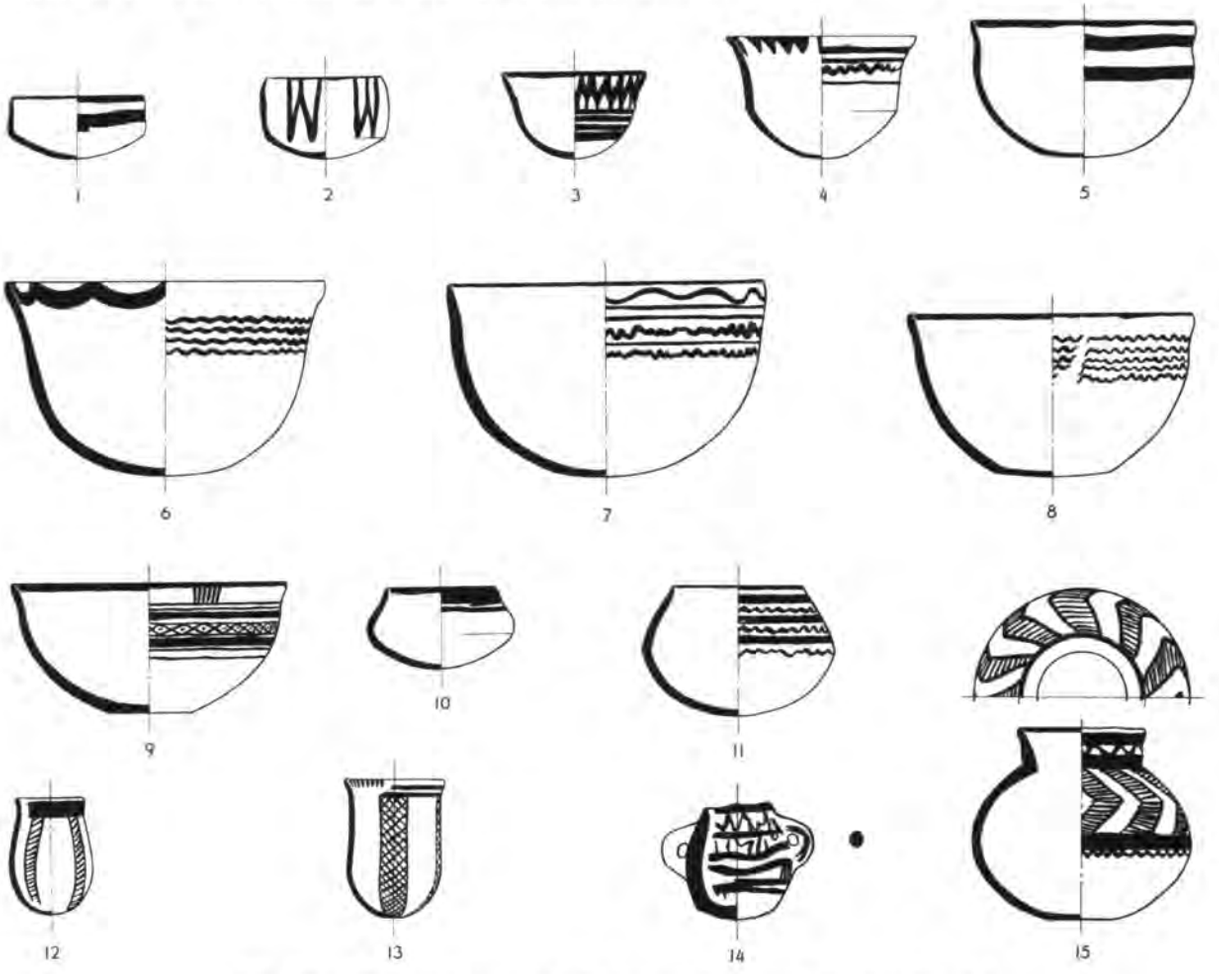

FIG. 144.—PHASE E. 'UBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:5

change in plane outside (Figs. 145:4, 146:22), already seen in Phase D (Fig. 131:7), are rare and seem to be restricted to the early part of the phase (see n. 5).

Over half the rim sherds indicate hemispherical bowls (Fig. 145:10–19), usually somewhat flared at the lip, Nos. 11, 13, and 15 being typical. Variant lips (Fig. 145:16–18) appear through-

[5] While the areas excavated and the sherd quantity controlled are not large enough to allow really reliable subdivisions within the phase, the following observations were made on the basis of the sherd samplings:

1. Cup-sized bowls with sharp change in plane (Fig. 145:1) were restricted to the uppermost 2.5 m. of trench I.
2. Low bowls with thickened flared rims (Fig. 145:4) are very rare and were restricted to the lowest layers (4.0–5.0 m.) of trench I.
3. Well developed bottles (Fig. 145:43–45) did not appear in any strength below the uppermost 3.0 m. of trench I.
4. Gourdlike cups (Fig. 145:46–48) appeared only above 2.5 m. in trench I.
5. Jars with rolled lips (Fig. 145:33) are rare and did not appear below the uppermost meter in trench I.
6. All other profiles seem to occur throughout the phase. It remains only to suggest, as little more than a guess, that the earlier vessels had less of their total area covered by painted decoration than the later examples.

out the range of painted motifs shown (Figs. 147–49:25). The complete examples (Fig. 144:3–9) are all fairly typical save that No. 3 is cup-sized and No. 4 is unusually sharply angled. Bases may be either rounded or flattened, and it is most probable that low pedestal bases (Fig. 153: 23–24) refer to this type of profile. It is pertinent to recall the bases classified with the Phase E Simple Ware (see p. 181 and Fig. 142:31–36). No secondary features were noted.

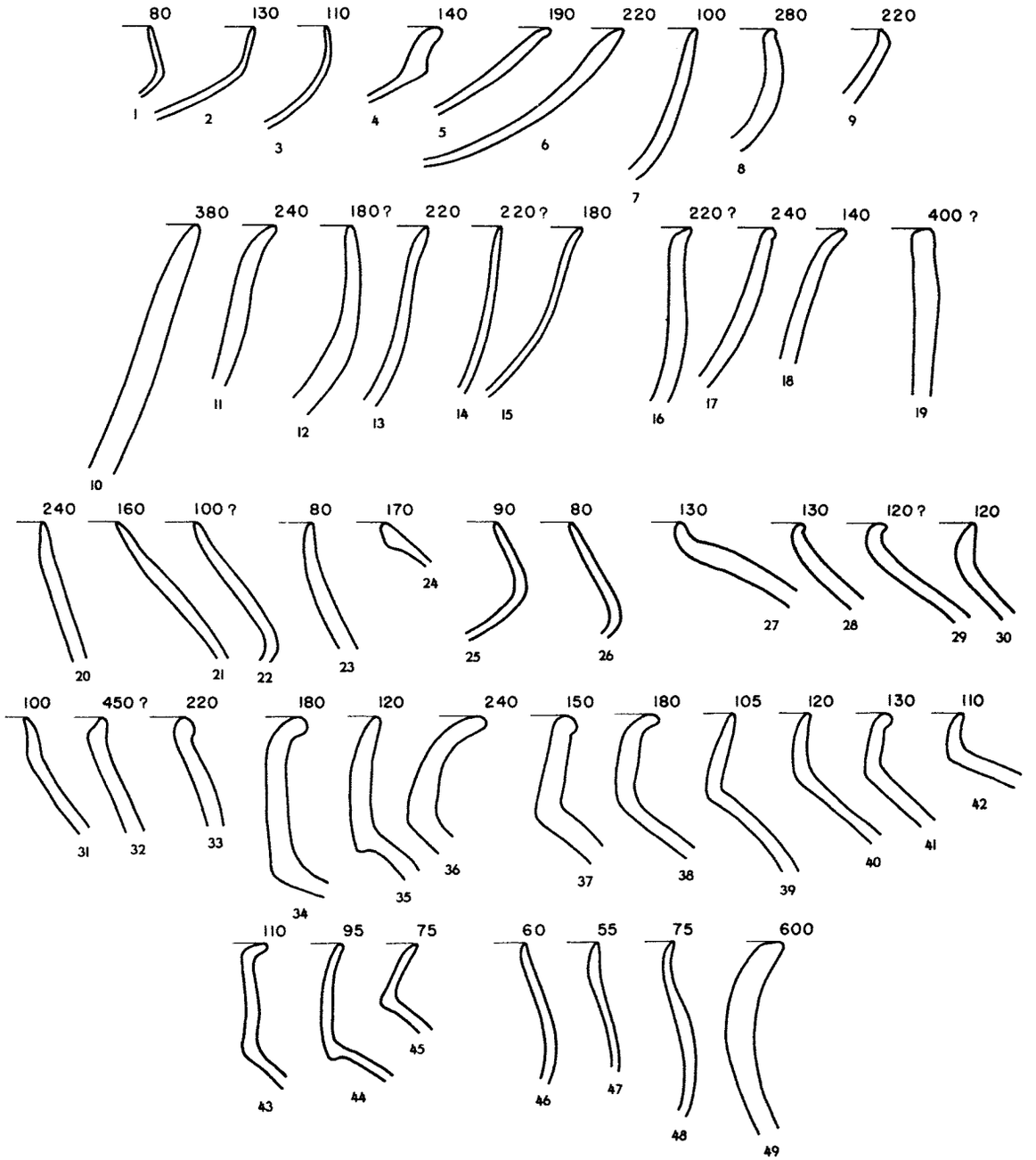

FIG. 145.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

Hole-mouth vessels (Fig. 144:10–11) appear in both regular (Fig. 145:20–24) and squatter cup-sized (Fig. 145:25–26) examples. The painted motifs appear on Figures 149:26 to 150:34. Bases are rounded (Fig. 144:11) or perhaps slightly flattened; no secondary features were noted.

Low-collared jars (Fig. 145:27–33) are intermediate in profile between hole-mouth and high-collared jars. The usual motifs are shown on Figures 150:35 to 151:14. In high-collared jars (Figs. 144:15, 145:34–45) the addition of extra clay to form the collar is usually noticeable. The range of painted motifs is shown on Figures 151:15 to 152:7. Some bases are flat, others probably rounded. Handles occur, some loops (Fig. 151:26) and several horizontally pierced lugs (Fig. 151:27). The rim sherds indicate that both low- and high-collared jars are relatively much less numerous than bowls. Both types of jars have counterparts in Phase E Simple Ware (Fig. 142:18–25).

Apparently beginning somewhat above the deepest layers of Phase E (see p. 184, n. 5) is a class of relatively narrow-necked bottles (Fig. 145:43–45). The painted motifs appear in Figure 152:8–27, where No. 21 shows traces of a strainer neck once closed by a perforated diaphragm of clay. This feature appears first in Phase B in Dark-faced Burnished Ware (Fig. 47:19). The necks of some of these bottles (Fig 152:24, 26) were evidently quite tall. No handle fragments were noted.

A small complete jar with two loop handles (Fig. 144:14) is unique, for no sherds of such a form were noted.

Apparently restricted to the latter half of the phase (see p. 184, n. 5) is a class of small gourdlike cups (Figs. 144:12–13, 145:46–48). Their painted motifs are shown on Figures 152:28 to 153:14. Bases are rounded or perhaps slightly flattened; no secondary features were noted.

A few odd sherds (Fig. 153:15–35) need mention. Two rim sherds (Nos. 15–16) probably refer to open jars. Just what rim profiles Nos. 17–19 call for is uncertain (see p. 188); No. 20 is unusual in its fairly abrupt change in plane. No. 21 is a body sherd of a jar which apparently had a shallow trough about its median body. Nos. 22–27 are bases of types already mentioned; No. 28 is a fragment of a pierced pedestal base, a type first appearing in the Buff Simple Ware of Phase D (Fig. 123:17). It is impossible to tell whether Nos. 29–30 are fragments of rims or pedestal bases. Nos. 31–35 are pierced-lug and loop handles.

In general it may be said that none of the profiles noted here, in the preponderant bulk of Phase E pottery, are great exceptions to the earlier ʿAmuq repertoire of pot forms. Perhaps the most significant difference is that lips become slightly more sensitive, particularly in the outrolling of some collar rims (Fig. 145:33, 37, 41) although some bowls also have outrolled rims (Fig. 145:17).

The really outstanding feature of Phase E, so far as it is known to date, is the style of the painted decoration on this ware. The motifs are all nonrepresentational[6] and can be called "geometric" in a rather loose way. The style is fairly careless and is mainly open. While a few of the drawings may appear to the contrary, the usual effect is of a greater proportion of light unpainted surface than of dark painted surface. Negative designs (e.g. Fig. 154:26) are very rare. The main tendency is to stress the horizontal, by various types of banding and various means of emphasizing the bands. Lines intended to be curving or wavy are as common as lines intended to be straight. The use of the multiple brush, with at least as many as five elements, is assured (see Pls. 20, 83:1), but the full extent to which it was used is problematical for technical reasons.[7] Although bases with paint do exist, the painted decoration is gen-

[6] To our minds the various elements often described as "birds," "sprigs," "fish," "eyes," "rising suns," "ladders," etc. are nonrepresentational. It is convenient to use some of these terms, but we impute no direct representational meanings to them.

[7] See *Man* XXXIX (1939) No. 187 for remarks on the use of the multiple brush in Judaidah XII (Phase G) and some results achieved with an experimental brush. The caption for the illustration (p. 193) is in error. Only Nos. 1–2 are from Judaidah; Nos. 3–4 are from Stein's sites in Fars (see *Iraq* III [1936] Pls. XXII 55 and XIX 15), and Nos. 5–6 are predynastic Egyptian pots in the Oriental Institute collections. No. 7 shows examples (done on paper with India ink) of

erally on the upper parts of the vessels. This feature is emphasized by the fact that a band of paint is usually found on or near the lip. In the sense that the lips and also the shoulders and median bodies of jars are emphasized, the style may be said to emphasize the tectonic. This emphasis is usually but not always horizontal; some of the bottle necks and some of the gourdlike cups have vertical emphasis, and the inner surfaces of open bowls are often treated radially.

Except for the addition of a second color, the same general statement holds for the painted decoration of the ʿUbaid-like Bichrome Painted Ware of Phase E (see p. 201).

In Figures 146–57 the sherds are presented in an order based on their profile classification (cf. Fig. 145), and within this classification the motifs are arranged according to an informal system developed by Miss Edna Tulane for the classification of the painted decoration.[8] Since the complete bulk of sherd samples brought from the field was controlled in setting up these figures, it is possible to see the main types of design used on each type of profile as well as the designs which appeared only on body sherds. Thus, for example, since the negative motif shown in Figure 154:26 is illustrated only on a body sherd, it may be assumed that no rim sherd bearing this design was discovered and that the profile to which it refers is uncertain. However, the figures represent a selection and do not show all the individual variations and combinations of motifs possible, even on the sampling brought from the field. But we do feel that the sherd drawings (Figs. 146–57), as supplemented by photographs (Pls. 20–22, 83) and illustrations of complete pots (Fig. 144, Pl. 19:3–11), give an honest synthesis of the main motifs and that the range of possibilities is suggested, even though each individual variation is not shown.

Figure 146 shows the motifs usual on the cup-sized open bowls and on the larger open bowls. The more open the example, the more likelihood of decoration on the inner surface. For example, there are small bowls like No. 9 with allover crosshatch on the inside. Nos. 19 and 20 also have allover inner patterns, and "sprigs," probably used to divide quadrants, also appear (Nos. 13, 18, 21). Bowls like No. 22 are rare and early (see p. 184, n. 5). Bolder radial divisions appear on the inside of the normal-sized bowls (e.g. No. 23), but horizontal emphasis also occurs (Nos. 31–32).

Figures 147 to 149:25 cover the main motifs found on the deeper bowls. Figure 147:1 shows an example with no lip band, but lip bands are present on most examples. Banding may be straight (Fig. 147:2–8), straight and wavy combined (Fig. 147:9–18), or straight combined with chains (147:19–22). These three motifs are by far the most common; in actual fact, chains are most numerous, waves come next, and straight bands are somewhat less numerous. In the uppermost 1.0 m., however, multiple-brush work, which includes wavy bands (Figs. 147:1, 15–18 and 148:6, 7, 12–14) as well as other motifs, surpasses even chain bands in strength of proportion. Multiple-brush work does not appear with certainty below the 3.0 m. depth, nor in appreciable proportion below 1.5 m.; in the earlier layers chains (Fig. 147:22) and plain bands (Fig. 147:3) are most typical. Motifs associated with straight bands are shown on Figure 147:23–28.

Bands are frequently used to inclose motifs in a zone in various ways (Figs. 147:29–149:25). Hatched diamonds (Fig. 147:43) are fairly common throughout the phase, although not nu-

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motifs possible with an experimental multiple brush (No. 8). Recognition of the use of a multiple brush is quite simple where a number of wavy bands flow in phase and all the bands show concentration of new paint at the same point. Once the use of the tool is recognized in the case of groups of wavy bands, its use also becomes apparent in dot- or "bird"-filled areas etc. (see Pl. 20:11–12, Fig. 156:19–26). How far beyond this the tool was used is hard to say. Theoretically, any number of the hatchings, crosshatchings, fringes, etc. could have been applied with a multiple brush. In such cases, however, the most useful criteria—the coincidence of phase and of concentration of new paint—are generally absent.

[8] Similar in most parts to that which she developed for the Samarran painted repertoire (see *JNES* III 69–72).

merous in the sense of the three band motifs listed above. Wavy bands and chains inclosed as if in a zone (Fig. 148:1–21) are numerous, especially chains at first, then, in the uppermost layers, multiple-brush waves (Fig. 148:6–7, 13–14). Swags (Fig. 148:22–25) are sometimes inverted and fringed to make a sort of "eye" motif. Next come detached motifs (Fig. 148:26–29), crosshatching (Fig. 148:30–31), and alternating motifs (Fig. 148:32–33) in a zone. With Figure 148:34, double zones begin; those with hatched diamonds (Fig. 149:1) are quite common, and those with wavy bands or chains (Fig. 148:4–5) are more common. Sometimes double zones have a different motif in each zone (Fig. 149:6–14). What appear to be allover patterns are shown in Figure 149:15–18, and Nos. 19–25 have abnormal lip profiles.

The hole-mouth jars are generally decorated with zones or perhaps allover patterns (Figs. 149:26–150:23). Hatched diamonds (Fig. 149:41) and fringed inverted swags (Fig. 150:2) are the most usual motifs. However, one of the complete pots has a simple alternation of straight and wavy bands (Fig. 144:11), while straight bands alone appear on a cup-sized example (Fig. 144:10). Sherds of cup-sized hole-mouth jars are shown on Figure 150:26–34. Two sherds (Fig. 150:24–25) are from vessels of normal size but questionable profile (bowls or hole-mouth jars?). The cup-sized hole-mouth vessels are close to those shown on Figure 146:1–8, where a lip band is more generally used.

The low-collared jars (Figs. 150:35–151:14) have motifs quite similar to those on the hole-mouth jars. They are not numerous, and some of the lip profiles (Fig. 151:9–13) might be considered variations of hole-mouth lips. On the more typical examples the lip area is emphasized by a bold band (Fig. 151:4).

The high-collared jars (Figs. 151:15–152:7) have even more attention given to the collar, as is natural (in a style with any tectonic feeling at all) since the shoulder is always fairly apparent. On the earlier sherds wavy bands in zones do not seem to appear on the collars, but straight bands (Fig. 151:20–21) are rather common. Waves, especially bold ones (Fig. 151:24, 28), are rather common on sherds found above the 2.0 m. depth and appear on examples where the collar flares noticeably. Hatched diamonds (Fig. 152:3) are quite common throughout the phase. Figure 144:15 is probably a quite typical complete profile.

The bottles (Fig. 152:8–27) all show motifs in zones, and contiguous diamonds with various kinds of hatching (Nos. 11–13 and, most typical, 15) are most common. Also on these tall narrow necks (there being no evidence at present for long spouts) there is some vertical design, in plain lines or "ladders" (Nos. 23–27).

The tall gourd-shaped cups (Figs. 144:12–13, 152:28–153:14) also have vertical as well as horizontal decoration. There seems to be a larger number of detached or semidetached elements in this class than is usual.

Two rim sherds (Fig. 153:15–16) are from open jars but otherwise unclassified. Certain body sherds (Fig. 153:17–21) are interesting from the point of view of profile or diameter as well as decoration. No. 18 probably represents a gourd-shaped cup, since its decoration is more solidly black than usual (as in Fig. 153:5). The bases (Fig. 153:22–28) show straight bands, groups of wavy bands, allover dot patterns, and wavy verticals. As mentioned above (p. 186), two sherds (Fig. 153:29–30) may be fragments of either rims or pedestal bases. The pierced-lug handles (Figs. 151:27, 153:31) have no special decoration, being merely swabbed with paint. The loop handles (Figs. 151:26, 153:32–35) are most characteristically treated with a stripe down either side and plain "ladder" strokes between.

The body sherds shown in Figures 154–57 amplify and supplement the motifs on the rim sherds. Figure 154 shows the various types of free and zoned fringes, chevrons, zigzags (plain, hatched, or crosshatched), diamonds (hatched, crosshatched in a negative area, or dot-filled), rhomboids (plain or hatched), wavy lines (plain or filled), and inverted swags (plain or fringed). The inverted swags continue on Figure 155 (Nos. 1–2) and are followed by cases where the

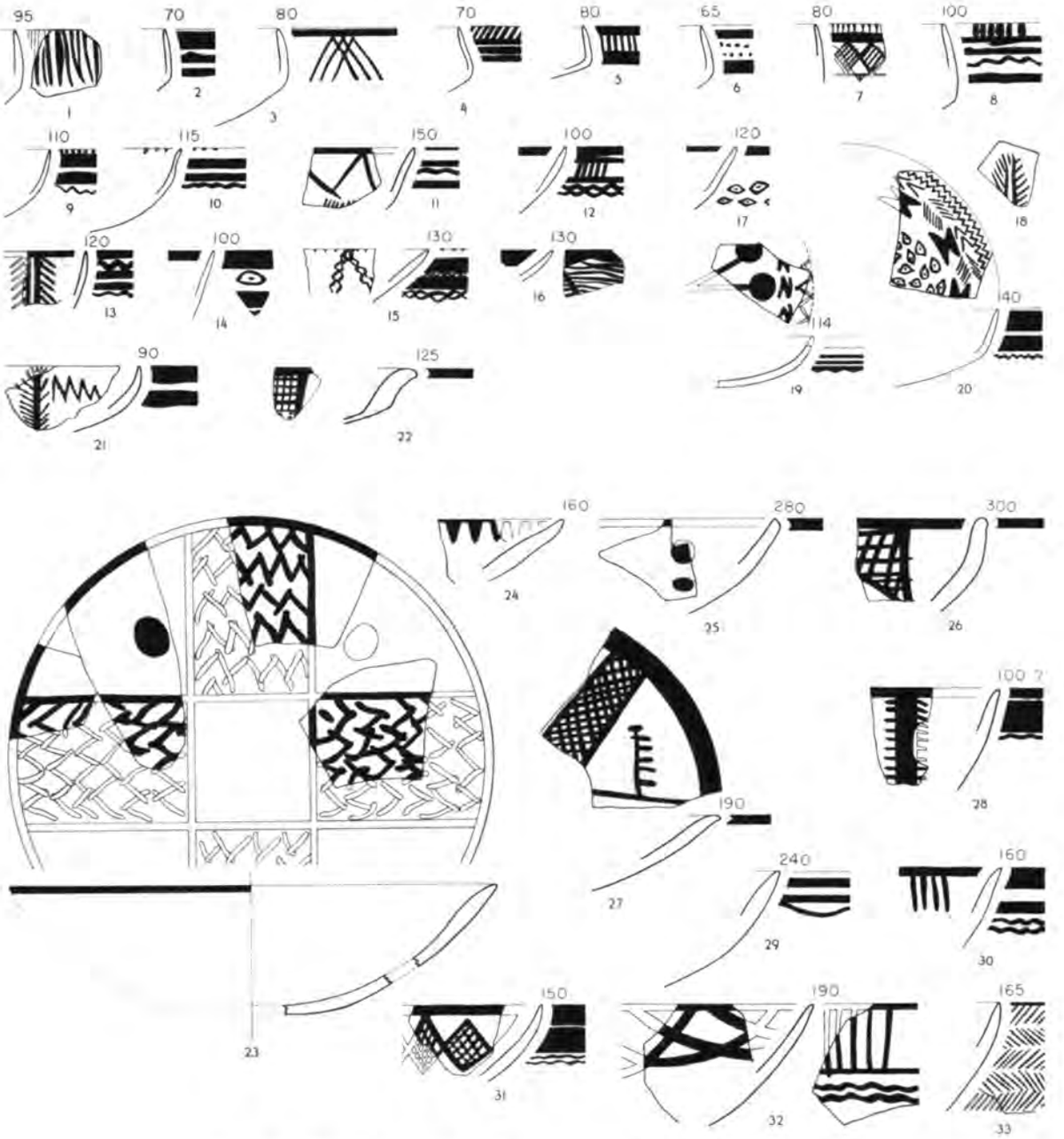

FIG. 146.—PHASE E. 'UBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

detached elements are more interesting (Nos. 3–14). Then come double zones (Figs. 155:15–156:2) with similar fillings of fringes, diamonds, or "butterflies" and with mixed fillings including a checkered zone. Some detached elements and over-all patterns (Figs. 156:3–157:2) are not of a certainty used in zones. The dots, "birds," etc. (Fig. 156:19–26) were probably applied with a multiple brush (cf. Pl. 20:11–12). A selection of miscellaneous motifs (Fig. 157:3–35) includes some which evidently made up panels probably used in wide zones. Nos. 29–35 cannot even be oriented with certainty but are shown in the positions suggested by whatever indications there are on both surfaces and by the motifs when possible.

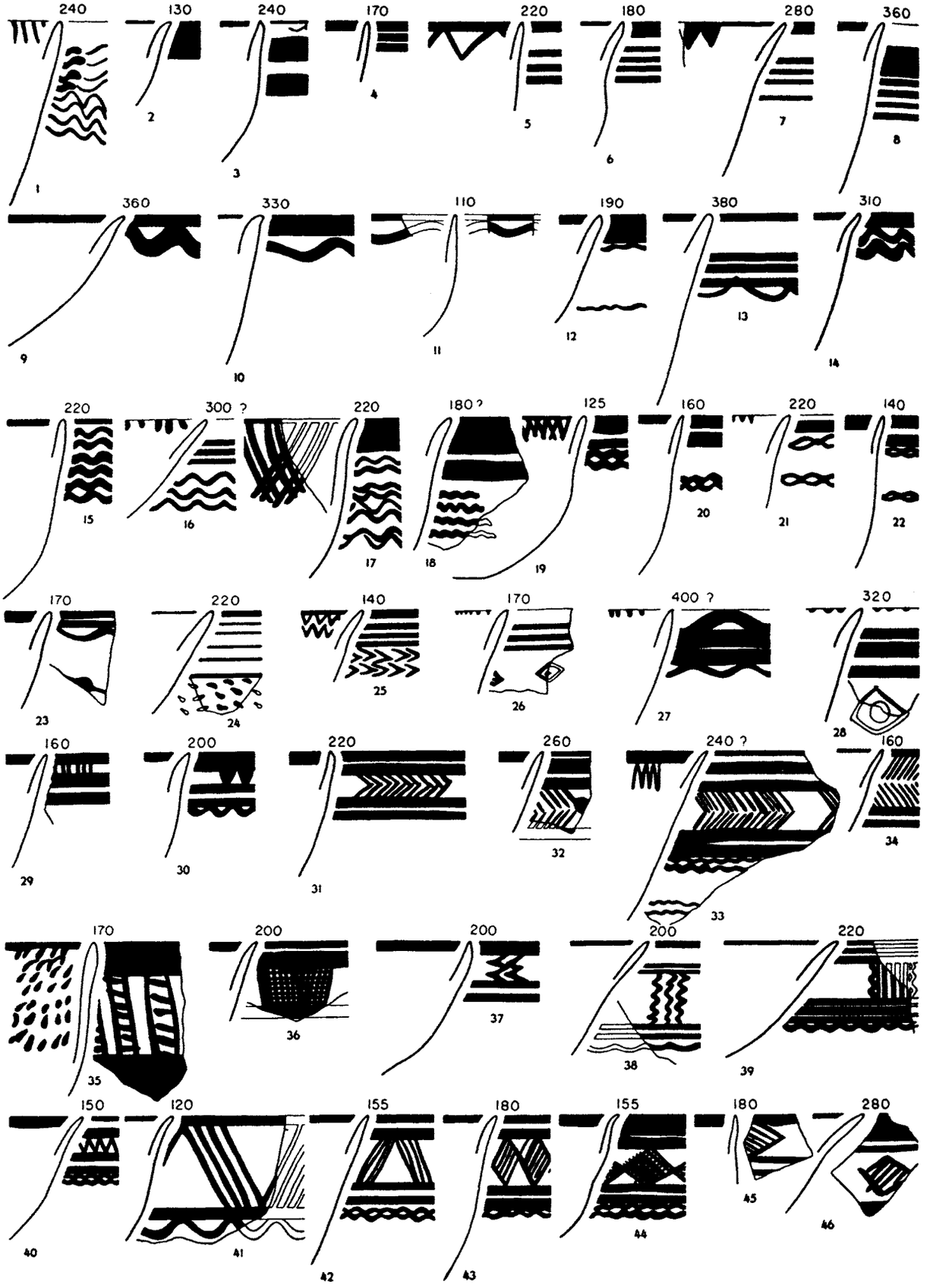

FIG. 147.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

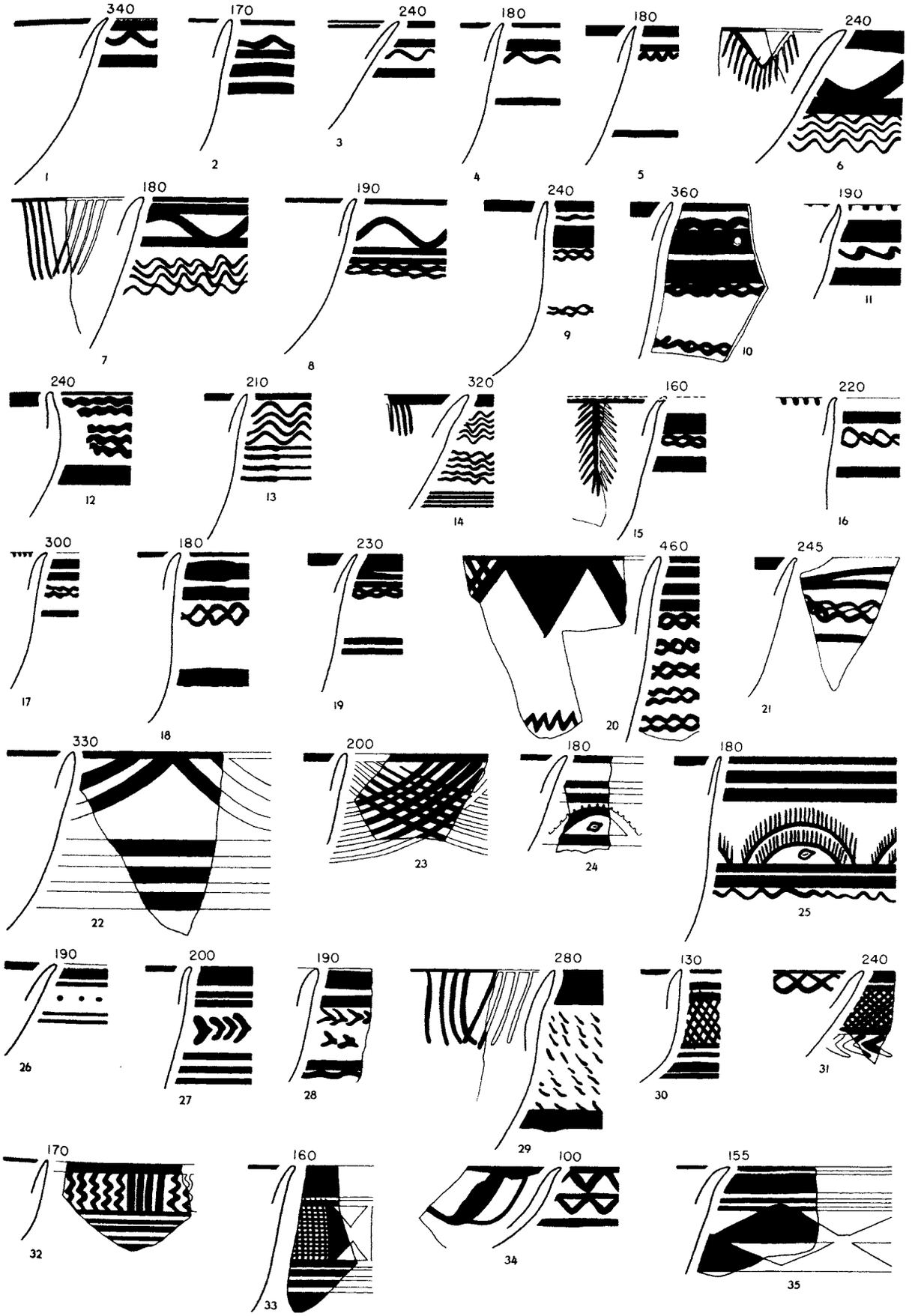

FIG. 148.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

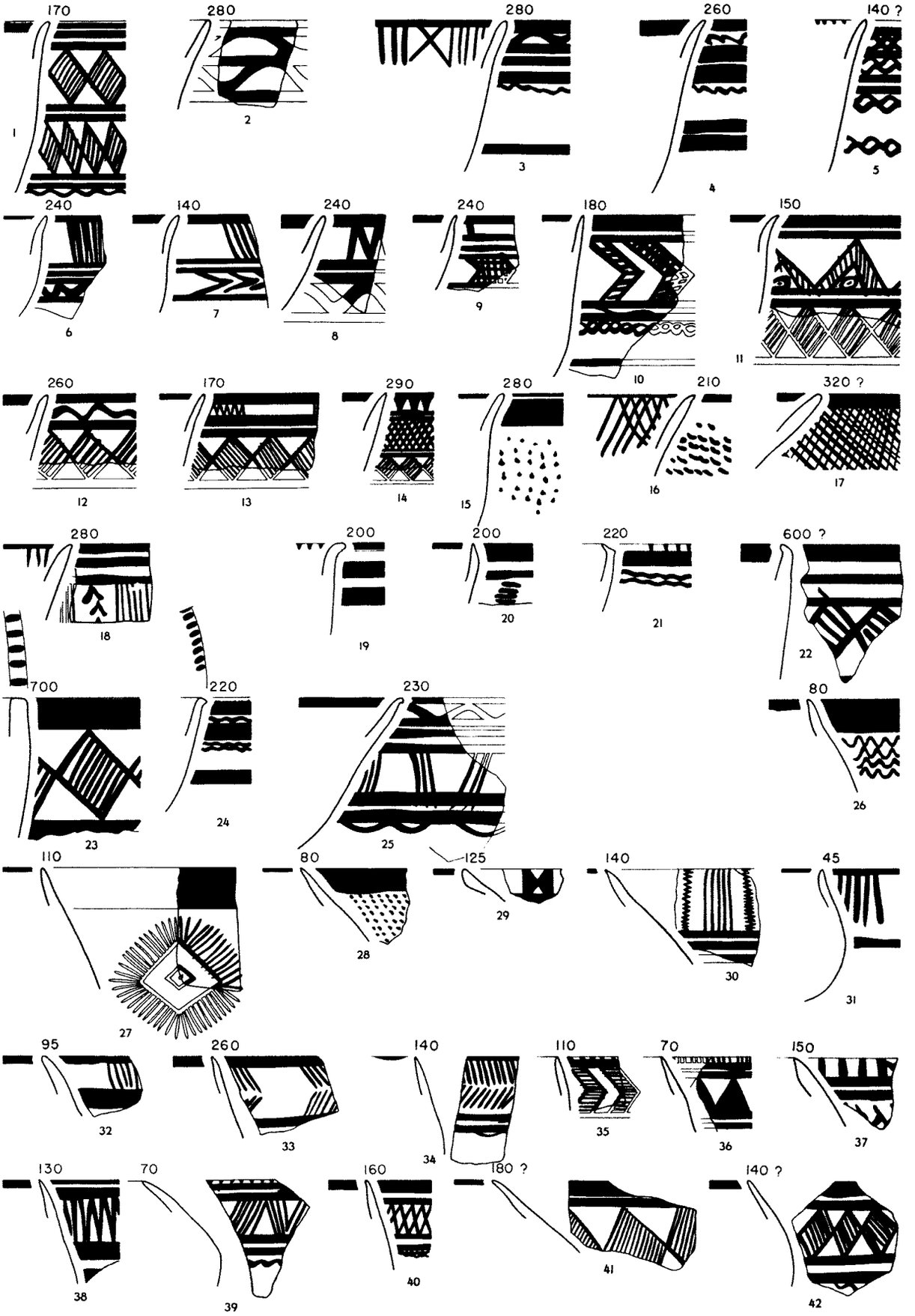

FIG. 149.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

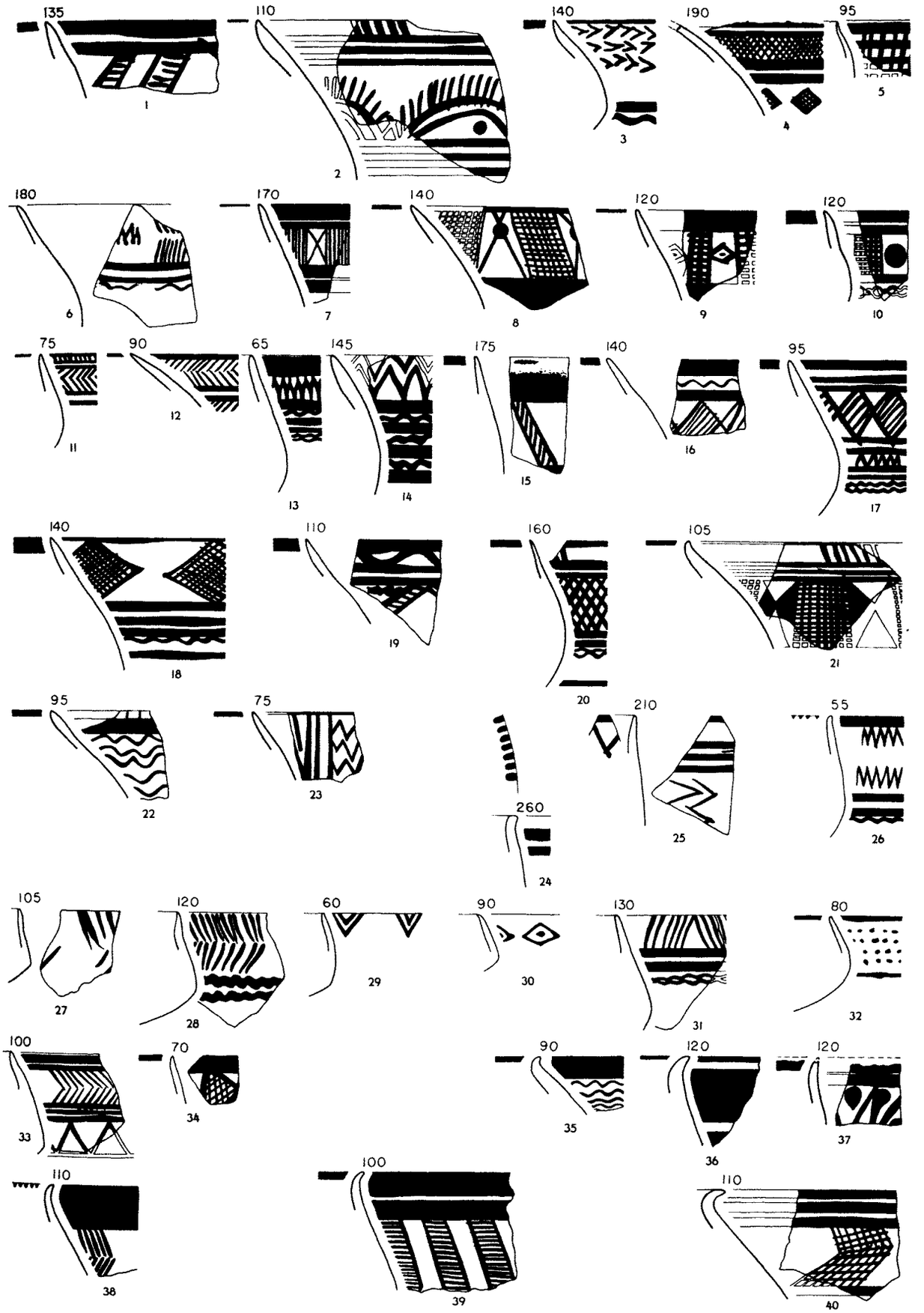

FIG. 150.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

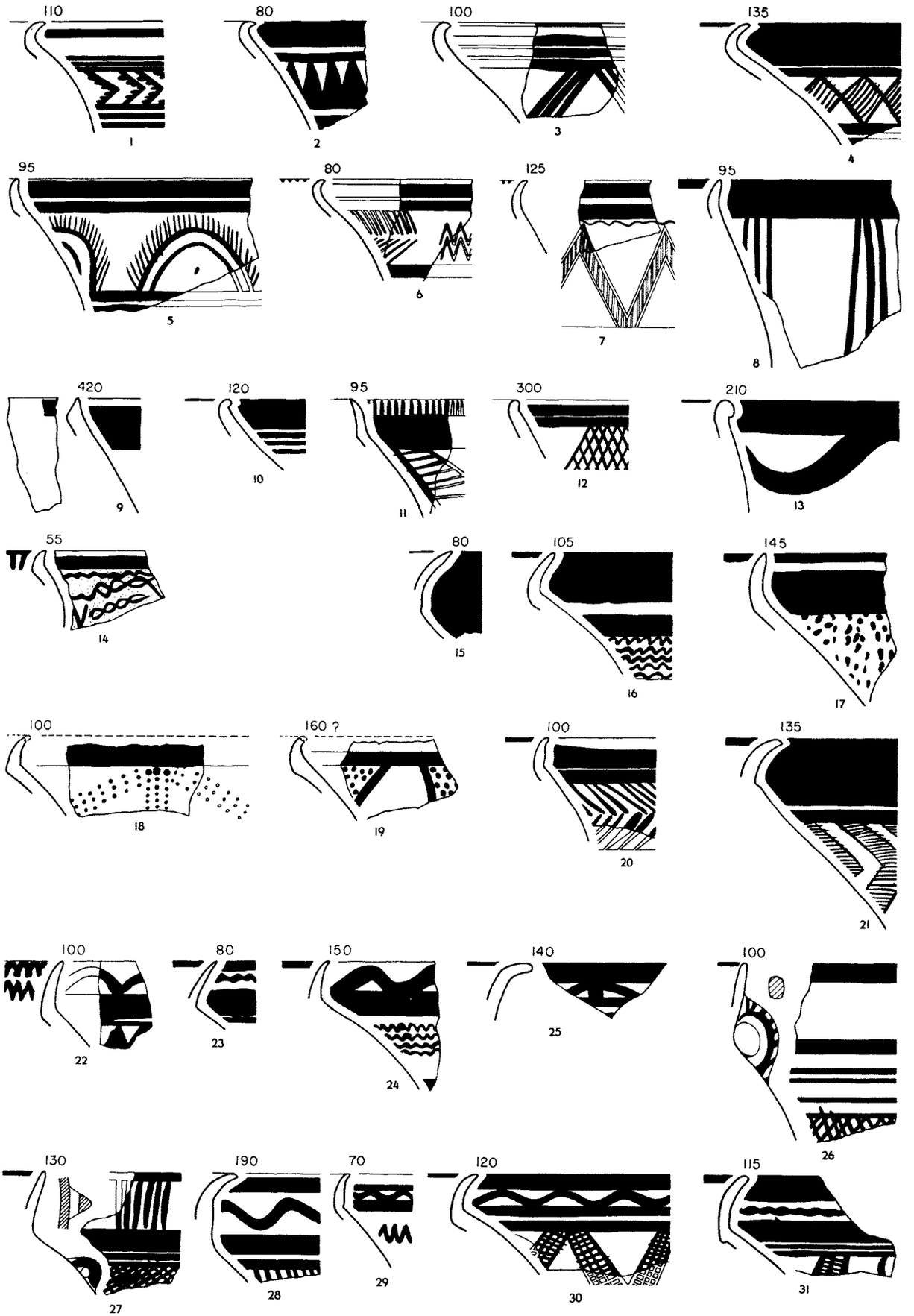

FIG. 151.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

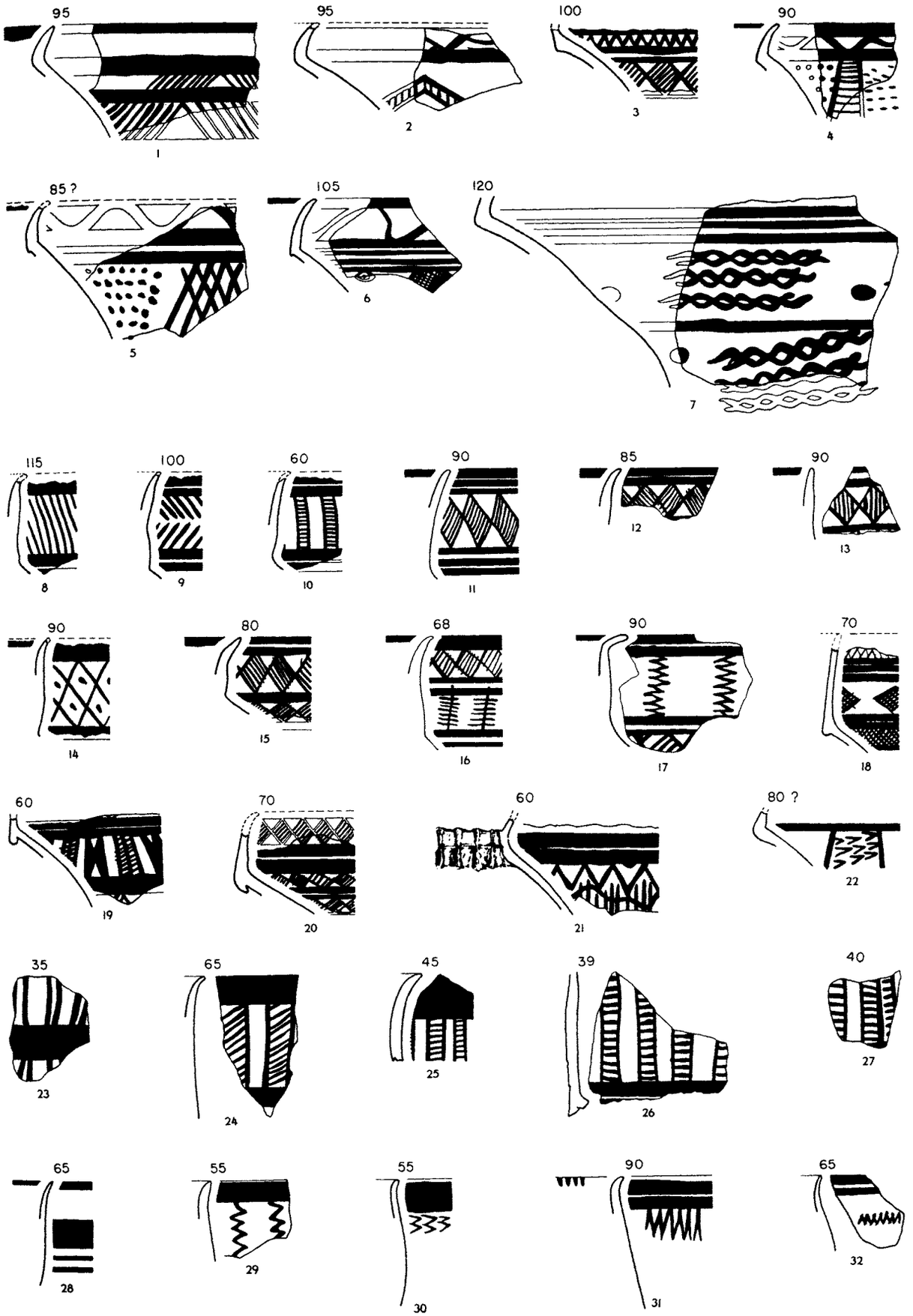

FIG. 152.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

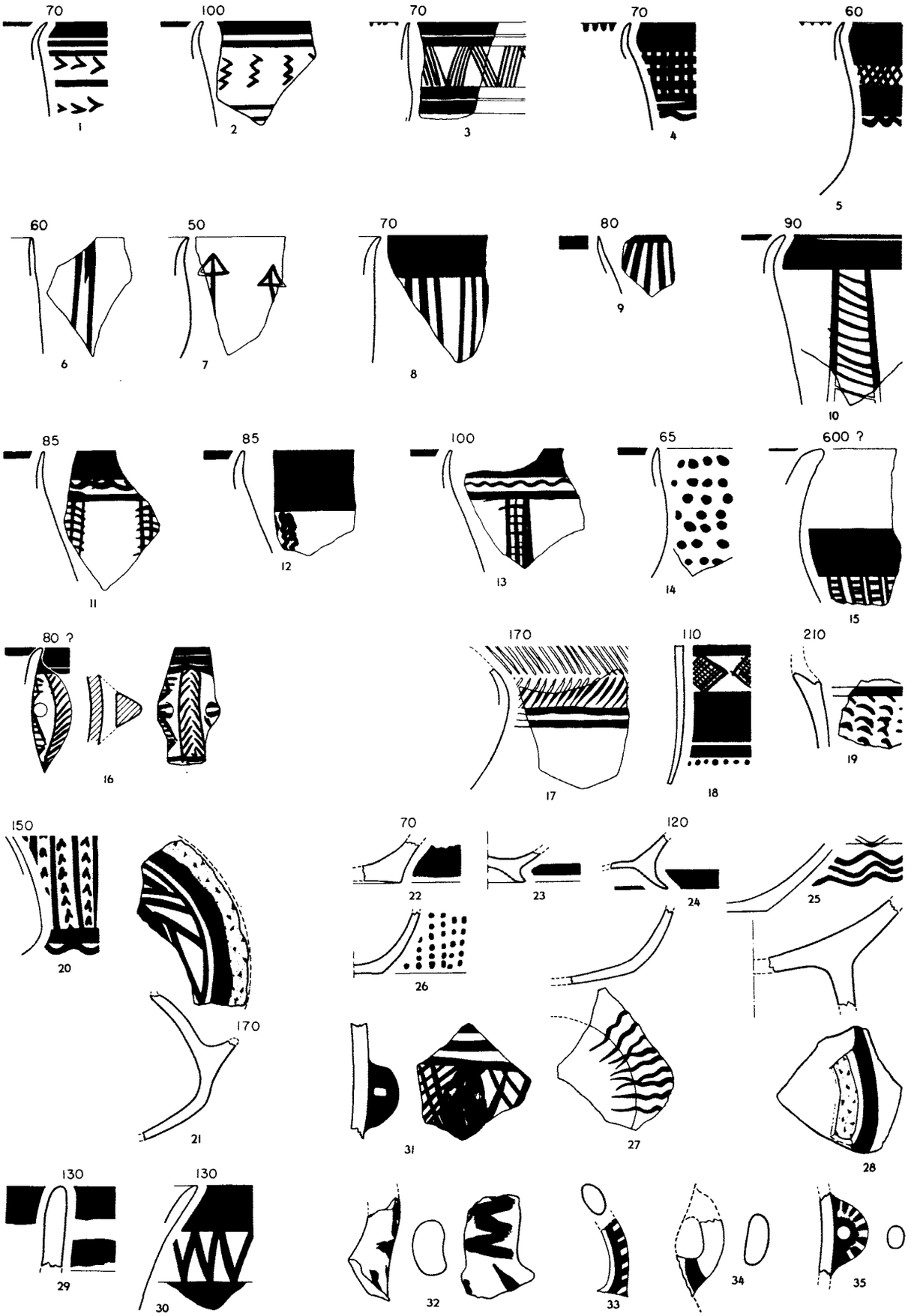

FIG. 153.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

FIG. 154.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

FIG. 155.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

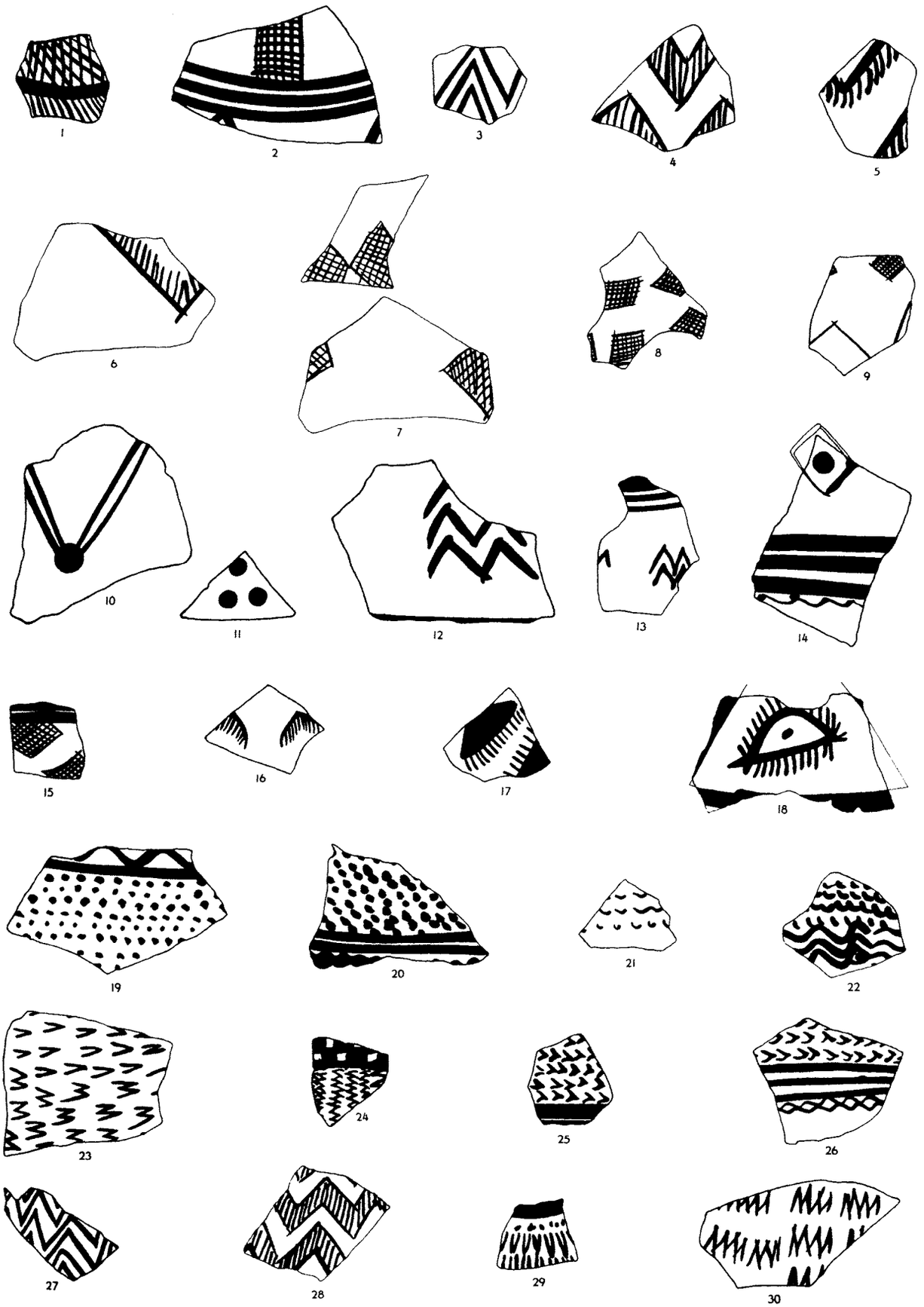

FIG. 156.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

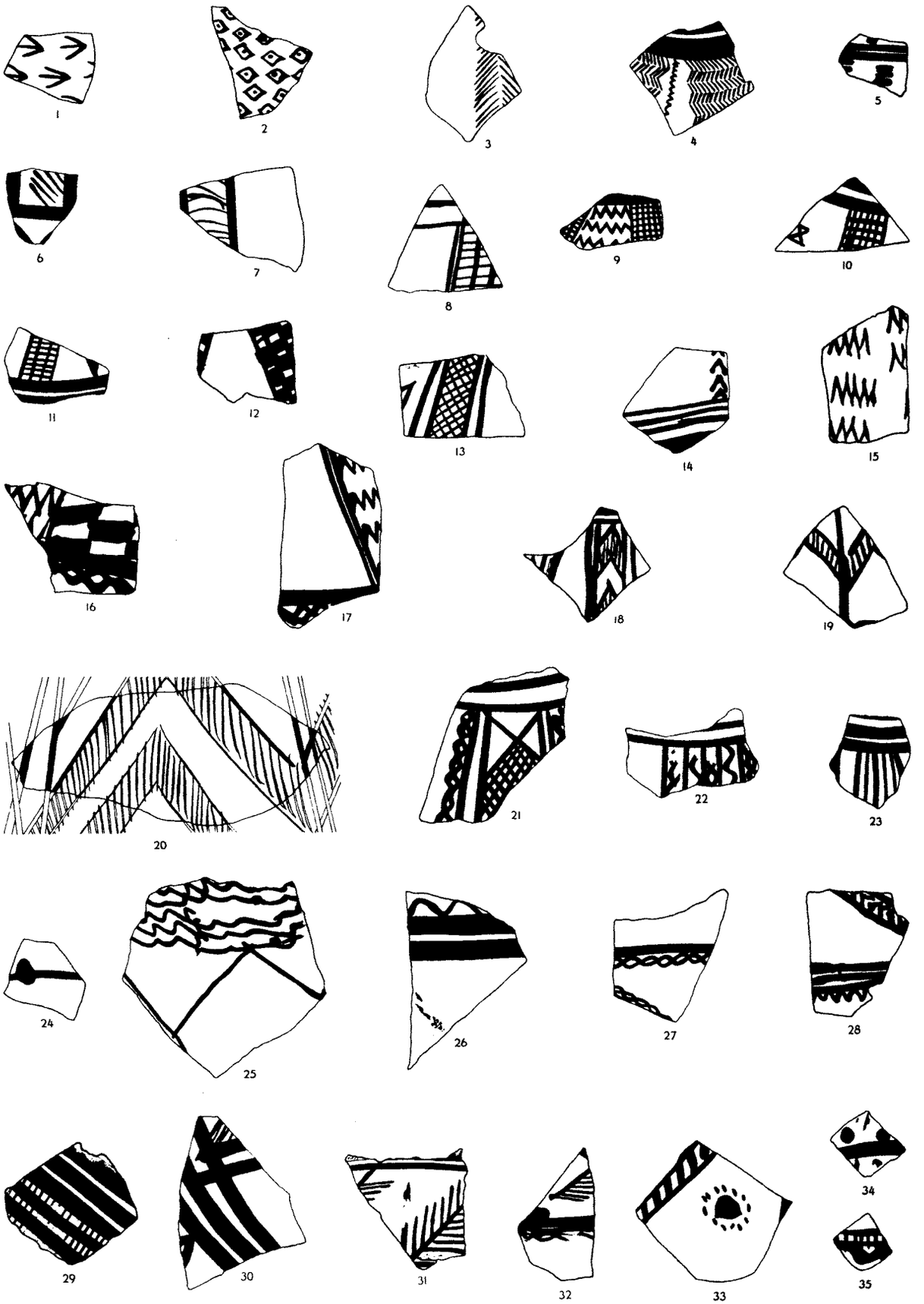

FIG. 157.—PHASE E. ʿUBAID-LIKE MONOCHROME PAINTED WARE. SCALE, 1:3

ʿUbaid-like Bichrome Painted Ware

(1–5% of total selected sherd bulk)

This ware is exactly the same as the monochrome ware save for the addition of the second color of paint in the decoration. The second paint is evidently an ocher solution; it varies in color from dull red-orange to blood-red, being normally full red-orange (see Pl. 83:3–4). In about half of the examples, it rubs off easily and was probably applied after the pot was fired. In cases where it is not fugitive, it was probably applied very thinly before firing.

These sherds are identical in paste characteristics to the monochrome group. The orange-red auxiliary decoration was applied after the vessels were fired, for in places it overlaps the darker (iron) paint. Some of it can be rubbed off when the surfaces are moistened. Under reducing conditions, iron paint fired in some areas of the kiln yielded dark brown to black decoration, which was perhaps not so desirable as red; hence a secondary paint application was used to achieve the desired effect. This development, first noted in Phase D, eventually led to two-tone decoration, another advance in ceramic techniques. —Matson.

All cases treated here are, from the point of view of the designs, examples of intentional two-color work. As noted by Matson (p. 183), the paint of the monochrome ware varies in color depending on firing conditions, which sometimes gave a reddish hue. But it is almost always possible to distinguish intentional two-color work on the basis of the designs.

Unfortunately this ware is represented by a small group of sherds, so that reliable detailed remarks about its development within Phase E are not possible. However, the distribution was strange in that the sherds seemed to be concentrated at the bottom and the top of the Phase E range and none were found between 4.0 and 2.5 m. Of the samples shown on Figure 158, Nos. 2, 10, 13, 23, 25, and 27 are from below 4.0 m., the rest from the upper range. About half of the sherds from the deeper range have the chalky white slip (see Pl. 83:3) seen already in Phase D (see p. 167), but the sherds from the upper range do not have it. Otherwise, it is only possible to suggest with reservations that the earlier vessels had much less of their total area covered with painted decoration than did the later ones.

Almost all of the profiles of the monochrome ware are represented in the bichrome group (Fig. 158). The red color is used mainly as a zone-filler between narrower dark bands. However, it is also used to outline (Nos. 13, 29, 30) and to form (Nos. 15, 20, 25) certain motifs. Its use in negative design (No. 29 and perhaps No. 30) is interesting. Nos. 29–30, as well as bowl rims with bold patterns (Nos. 3–9), are from the uppermost 1.0 m. of the Phase E range, where the multiple-brush treatment becomes so common on the monochrome ware (see p. 187).

Karaca Khirbat ʿAli Sherds

The sherds taken from the surface of the low mound called Karaca Khirbat ʿAli, which is situated just northwest of Chatal Hüyük and across the ʿAfrin River,[9] contain a strain of early painted pottery. The paste, the surface, the dull dark paint, and, as nearly as can be judged, the profiles correspond most closely to the ʿUbaid-like Monochrome Painted Ware of Kurdu. It is also evident that about half of the available designs (Fig. 159:2–4, 8, 10, 13–14, 17–18) correspond to designs of the Kurdu ware. The remaining designs are enigmatic, especially those with positive or negative pendent triangles (Fig. 159:5–7, 9, 12) and what is probably a boldly bordered diamond (Fig. 159:1). Rather long pendent triangles have a place in the transitional Monochrome Painted Ware of Phase D (cf. e.g. Fig. 129:1), and there is a First Mixed Range sherd (Fig. 90:3) with solid pendent motifs (apparently semicircles rather than

[9] *Survey*, No. 168. At the time the ʿAmuq survey was done, most early painted pottery was classified roughly as either "provincial" or "true" Halaf ware. The Karaca Khirbat ʿAli sherds in question were considered "provincial" examples. This mistaken judgment was cleared up with the excavation of Kurdu.

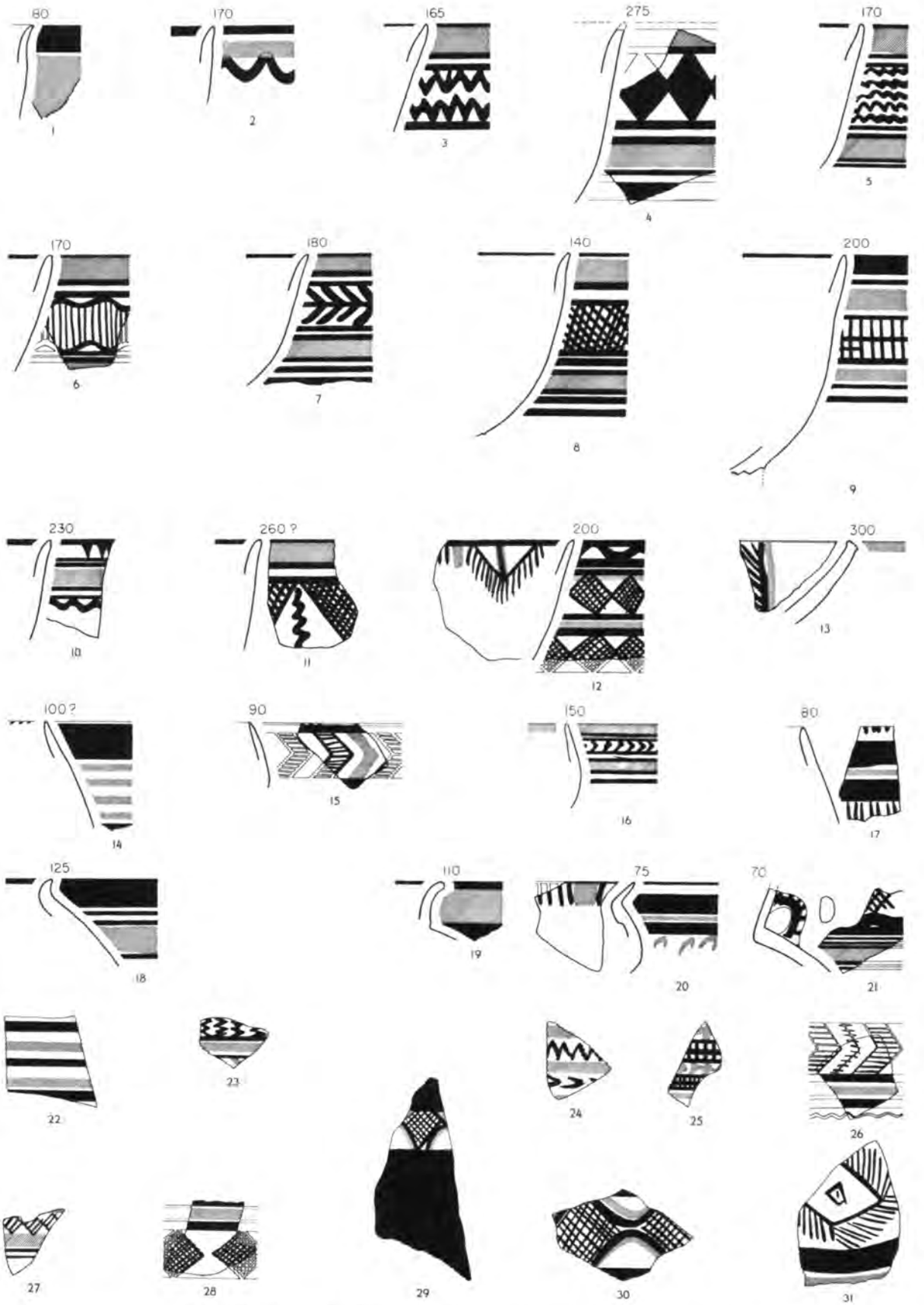

FIG. 158.—PHASE E. ʿUBAID-LIKE BICHROME PAINTED WARE. SCALE, 1:3

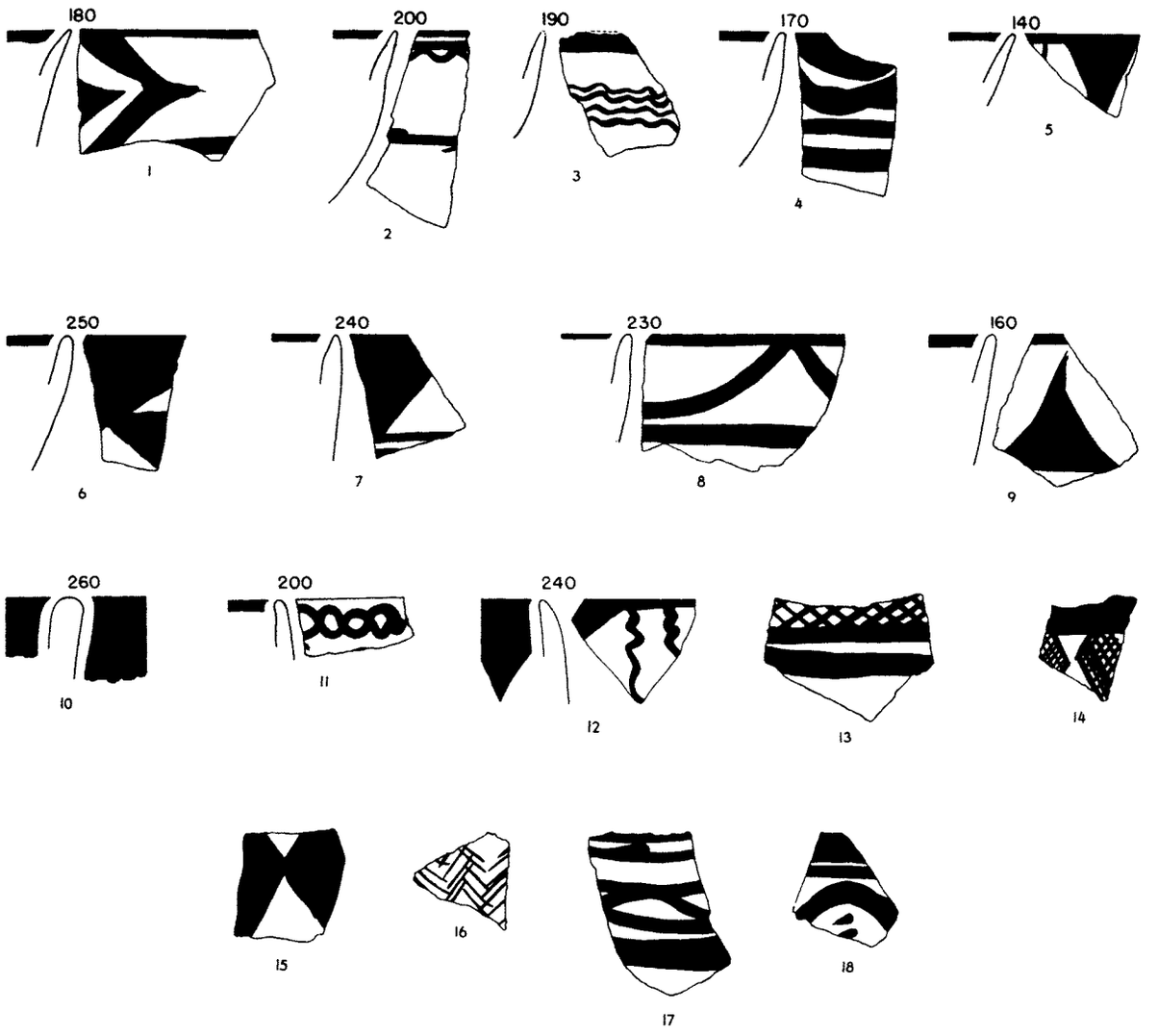

FIG. 159.—PAINTED SHERDS FROM KHARACA KHIRBAT ᶜALI. SCALE, 1:3

triangles). Two of the Karaca Khirbat ᶜAli sherds appear to have vertical interrupters between the pendent triangles (Fig. 159:5, 12), a device known in the Phase D transitional ware also (cf. Fig. 129:2). However, the fabric and the profiles of the enigmatic Karaca Khirbat ᶜAli sherds are not comparable with those of the Phase D transitional ware, nor are the motifs drafted with the care which seems to characterize Phase D.

At the moment it would seem wisest to allow the enigmatic Karaca Khirbat ᶜAli motifs to stand as an indication that the full range of Phase E is not yet known. Typologically, they would seem to be developments out of the Phase D Transitional Monochrome Painted Ware decoration, but the sherds resemble those of the Phase E ᶜUbaid-like Monochrome Painted Ware on all other counts. On the other hand, the pottery from the apparently complete stratigraphic transition from Phase D to Phase E on Kurdu does not exhibit these enigmatic motifs. Therefore the Karaca Khirbat ᶜAli sherds may, in the present state of knowledge, indicate at least three possibilities:

1. They may refer to a period of transition from Phase D to Phase E of which the relatively restricted area at the base of the E material in trench I on Kurdu yielded no evidence.
2. They may represent a local variation of the Phase E type of decoration within the ᶜAmuq.

3. They may be a post-Kurdu manifestation of Phase E pottery decoration, in which case they would have to be seen as representing a late recrudescence of a decoration first used in the previous phase (D).

Thus, in spite of the relatively large bulk of the Phase E sherd sampling, this section must end on the note that all is far from being known of the phase, especially its end (see p. 181, n. 4). If there is any evidence in hand which refers to the time of contact between Phase F and Phase E, we are not conscious of it.

BAKED-CLAY OBJECTS

Thirty-six small objects of clay are available from the Phase E depths on Kurdu.[10] The largest proportion are of the type described as sling missiles. All the objects appear megascopically to be of the dull buff clay of the Phase E Simple Ware (see p. 181), though at least two-thirds of them are markedly fire-darkened. Few show any trace of burnishing.

In the utilitarian category are four whorls: two potsherd disks (e.g. Fig. 160:1, Pl. 48:2) and two molded specimens (Fig. 160:2–3, Pl. 48:10). The sixteen sling missiles, some quite poorly baked, are prolate in profile and round in transverse section (l. *ca.* 33–52, d. *ca.* 19–32 mm.). The illustrations (Fig. 160:4–7, Pl. 49:1–3) show the range of variation in size and shape. One example (Fig. 160:7) is more sharply pointed than usual.

Seven finger-molded figurines, all markedly fire-darkened, appeared. Three represent humans, being small and very stylized females. The only whole example is little more than a cone with pellets added as breasts and slight pinching to suggest arms and perhaps a peaked headdress (Fig. 160:13, Pl. 50:2). The other two show more modeling, for the pellet breasts and the pinched-out arms are more marked, but in neither case does the head remain (Fig. 160:12, 14 and Pl. 50:1, 3). The smaller one shows traces of burnishing. Four animal figurines are too crudely executed to indicate the species intended. The three most complete examples are illustrated (Fig. 160:8–9 and Pl. 51:6, 10, 14).

Three beads appeared. One is simply a well ground sherd disk with a large hole (Fig. 160:16). The second is a small hand-molded oblate of dark clay (Pl. 49:24), its hole pierced from one side, probably with a thorn, while the clay was soft. The third bead (Fig. 160:17, Pl. 49:26) is of a flattened diamond shape which occurs in obsidian also (see Fig. 166:13).

Six objects are uncertain as to original utility. A pierced cylinder may be a bead (Fig. 160:15). An irregular pellet, pierced before baking, is possibly a bulla (Fig. 160:19). A padlike fragment is even more possibly the remains of a bulla or sealing (Fig. 160:20, Pl. 49:17). It has a sort of linear impression on its upper face and on its lower face what is possibly a channel left by binding strings. A "nail" (Fig. 160:18, Pl. 49:7) has burnished surfaces. Finally, there are two fragments; one suggests the tail of a fish (Fig. 160:10), and the other is a simple rough cone which is broken at the base and has a pared surface (Fig. 160:11).

FLAKED STONE OBJECTS

Flint is still very commonly used in Phase E for a variety of implements. There is also a great liking for obsidian, which is used for pendants and beads as well as implements. A sufficient number of flints (469) was excavated and saved for study to give a sound (if not complete) picture of the Phase E industry, which continues that of Phases C–D. The differences between the A–B industry and that of C–E[11] show up mainly in the sickle blades, the blades and blade sections, and the projectile points. The flint-working of C–E is still very good but

[10] Objects which were discarded without being catalogued are briefly described in the field register as fragments of human (K11, K30) and animal (K18, K43, K94) figurines, a roughly hexagonal disk or whorl (K51), and a knob (K40).

[11] The change in industry after Phases A–B was first observed by Mrs. Payne when she studied the flints of the First Mixed Range (see pp. 530–33) well before the excavation of Phases C–E on Kurdu.

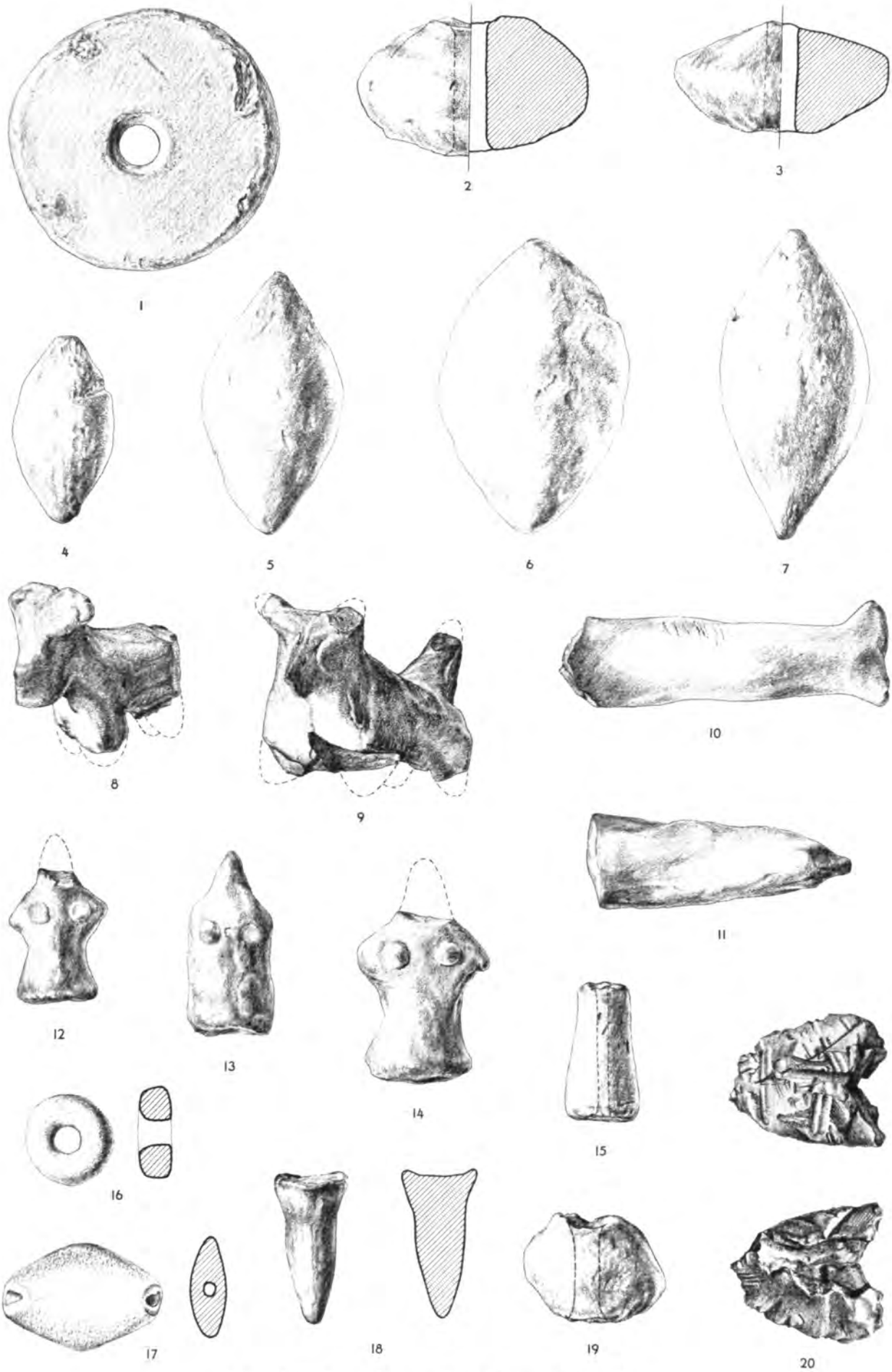

FIG. 160.—PHASE E. BAKED-CLAY OBJECTS. ACTUAL SIZE

not so spectacular as that of A–B, perhaps mainly because javelin heads, which are so handsomely flaked in A–B, are entirely lacking.

The characteristic sickle blade of Phases A–B is short and slender with no retouch except that which forms the fine denticulation (usually bulbar-face retouch) on the working edge. Various types of sickle blades are used in Phases C–E. They are usually much broader and somewhat longer than those of A–B and have, in addition to the finely denticulated working edge (usually upper-face retouch), retouch along the back and/or ends.

The bulk of the blades and blade sections of Phases A–B are slender and regular in shape, but there are occasional broader examples. In Phases C–E, broad blades are much desired in addition to slender blades. The trick of producing these broad blades, which fan out from a very small plain striking platform, is characteristic for C–E.

TABLE II

DISTRIBUTION OF SICKLE BLADE TYPES IN PHASES C–E ON KURDU

Type		Number of Specimens		
		Phase C	Phase D	Phase E
Steep retouch on backs and/or ends	1*a*	14 {5 trapezoidal, 9 curved}	5 {3 trapezoidal, 2 curved}	25 {22 trapezoidal, 3 curved}
	1*b*	4 trapezoidal	0	9 {8 trapezoidal, 1 curved}
	1*c*	6 small	4 small	50 {6 large, 44 small}
	Total	24	9	84
Additional retouch, not steep, on backs and/or ends	2*a*	2	8	35
	2*b*	1	3	44
	Total	3	11	79
Bi-edged	3	3	0	30
	Total	3	0	30
Plain, retouch on working edge only	4*a*	0	1	12 large
	4*b*	4	3	23 small
	Total	4	4	35
Grand total		34	24	228

No projectile points were found in Phases C–D, but further excavation might yield some. In Phase E, flint projectile points are proportionately much rarer than in Phases A–B. They are also distinctly different from those found in A–B and, for that matter, in any of the later phases. They are much smaller than those of A–B but almost as neatly worked.

Although the flint-working is basically the same in Phases C, D, and E, a few minor differences are apparent. One in particular may prove helpful in distinguishing between these phases in the future, that is, the changes in emphasis in types of sickle blades used. It is true that these differences are based on comparison of seemingly adequate (Phase E) with most inadequate (Phases C–D) materials, quantitatively speaking. But it is quite likely that these particular differences will stand even when more materials are excavated. For inadequate as the materials are, they represent happenstance of finding and not modern subjective selection (i.e., all sickle blades found for any phase are included in description of that phase).

Table II shows the distribution of the various types of sickle blades in Phases C–E. More detailed descriptions of the types are given on pages 208–9. Although the same types of

sickle blades are used in all three phases, there seem to be changes in the popularity of the various types, especially between Phases C and E. In C there is proportionately much more use of steep retouch than in E. Types 1*a* and 1*b* (broad sickle blades with steep retouch and one diagonal end) are characteristic of C but are less popular in E. In addition, in C they are represented equally by a trapezoidal shape (with diagonal end forming definite angle with sides) and a lunate-like shape (with diagonal end curved over into back), while in E the trapezoidal shape is mainly used. Type 1*c* (slender rectangle with steep retouch on back and often on ends as well) is proportionately more used in E than in C and is also the most common vehicle in E for steep retouch. Proportionately, types 3 and 4 are fairly equal in C and E. The great discrepancy occurs in type 2 (fairly large sickle blades with additional retouch, not steep, on back and/or ends), which is rare in C, makes up a large percentage in D, and is extremely common in E.

Flints

ARROWHEADS

All three examples have only slightly defined wings. One (Fig. 161:1) is almost complete, with merely the extreme tip missing. The shape is unusual in that the tang is squared off. Slight denticulation on the functional edges (except for one short stretch) was accomplished by methodical flat even retouch on the upper face. Flat even retouch which gives a fluted appearance, especially on the bulbar face, covers the tang on both faces and the tip end on the bulbar face. The second example (Fig. 161:2) has barely discernible denticulation on both edges along the lower half of the wings. Careful flat, in some places fluting, retouch covers the upper face and much of the bulbar. It seems unlikely that the tang extended much beyond the present break. It probably ended in a point and was not squared off as in No. 1. The third and smallest (23 × 8 × 2 mm.) arrowhead (K70), whose tang end is also broken, is similar in shape to the other two. It has, however, very little retouch compared with them. Nibbling retouch on the bulbar face defines the tang. There is also nibbling retouch on the bulbar face along both edges at the tip end. On the upper face there is a bit of nibbling retouch along the tang edges. Neat flat retouch covers the whole tip end on the upper face.

SICKLE BLADES

No one type of sickle blade predominates among the 228 examples (see Table II). The general impression is of largeness of the sections used (in contrast with Phases A–B; see Fig. 59:6–9), although short slender ones are used at the same time. There is a predilection for retouch in one form or another (almost wholly upper face) in preparation of the back and/or ends for fitting into the haft. Only thirty-six examples are without such retouch. There is fairly consistent use of upper-face retouch to form the denticulation, which is fine and irregular throughout. Often the facets are fairly deep (esp. in type 1; see below). There is a tendency in some (between $\frac{1}{4}$ and $\frac{1}{3}$) to snap one end obliquely.

Quite a few of the sickle blades are made on bulbar tip sections. Although the striking platform on the blades is small, most of the blades tend to fan out sharply and are fairly broad near the bulbar end (see p. 210), which in many cases is trimmed so that it is rounded or squared off. There are practically no recognizable end sections among the sickle blades; the ends of the blades were apparently snapped off or in some cases retouched beyond recognition. Thus the greater bulk of the sickle blades seem to be middle sections. In actual fact, the whole blades (see p. 209) seem to indicate that it is unlikely that more than two sickle blades could be produced from one blade. Probably in the majority of cases only one sickle blade was made from a single blade.

The sickle blades can be divided typologically as follows (see Table II):

1. Sickle blades with steep retouch on back and/or ends (84 examples).
   a) Fairly long and broad, steep retouch on back and one or both of the ends, one end (in some cases both ends) diagonal (25 examples). Largest 68 × 30 × 9 mm., smallest 35 × 15 × 4 mm., average 46 × 19 × 6 mm. Figure 161:7.

   In the majority the ends make definite angles with the working edge and the back, giving a trapezoidal shape (as in Fig. 161:7, Pl. 65:4). In two examples both ends slant in the same direction, forming a parallelogram (Pl. 65:5). With few exceptions, only the upper end is diagonal. In two cases the upper end is broken off, but the lower end slants up to the working edge. In two other cases (one broken at upper end) the upper end is straight and the lower end slants down to the working edge.

   In only three examples are the ends curved over into the back. One of these is definitely lunate in shape (Pl. 65:3); the other two approach a lunate shape (cf. Fig. 119:4).

   The backs of all are steeply retouched, the majority with smooth retouch. In more than two-thirds both ends are steeply retouched, and the balance have only one end retouched. A few have no retouch on the working edge. The great majority, however, have fine irregular denticulation formed by upper-face retouch. In many cases the facets are fairly deep (as in Fig. 161:7).

   b) Fairly long and broad, steep retouch mainly on one end (in a few cases on both ends), one end diagonal (9 examples). Largest 58 × 19 × 14 mm., smallest 35 × 15 × 5 mm., average 46 × 17 × 5 mm. Plate 65:6.

   Again the shape is mainly trapezoidal, with the upper end diagonal. In two examples, however, the upper end is straight and the lower end slants down to the working edge. In one example both ends slant out to meet the working edge. In another both ends are rounded off into the back, giving a broad lunate shape. A few have bits of steep retouch along the back, but in the main the steep retouch is confined to the diagonal end; in a few cases both ends are steeply retouched. A few have no retouch along the working edge. The remainder have fine irregular denticulation formed by upper-face retouch, the facets being fairly deep.

   c) Steep retouch on back and some ends, ends squared unless otherwise noted (50 examples). Figure 161:5 and 9.

   Six examples are fairly long and broad (largest 75 × 22 × 6 mm., smallest 54 × 28 × 6 mm.). Four of these have steep retouch along the back and both ends. Two have steep retouch on the back and one end (Fig. 161:9).

   The remainder are smaller (largest 46 × 12 × 6 mm., smallest 20 × 11 × 4 mm.). The average dimensions (34 × 14 × 5 mm.) do not give exactly the right impression of this group, for, though some are short and stubby, about one-half are short and very slender (Fig. 161:5). One-third are steeply retouched along the back only. The remainder have steep retouch along the back and one end (in a few cases along both ends as in No. 5). Five examples have one diagonal end, but they are included here rather than with type 1*a* because they are so short and slender.

   The denticulation is fine and irregular. A few examples are not retouched on the working edge. A few have denticulation formed by bulbar-face retouch. The great bulk, however, are denticulated by upper-face retouch; in many cases the facets are fairly deep.

2. Broad and fairly long sickle blades with additional (not really steep) retouch on back and/or ends (79 examples).
   a) Retouch on back and some ends (35 examples). Largest 65 × 18 × 4 mm., smallest 24 × 22 × 6 mm., average 44 × 18 × 4 mm.

   One-half are retouched across the back only, the other half across the back and one end or in a few cases both ends. Eight have one diagonal end. Although a few have steep smooth retouch across the back, the bulk have neat nibbling retouch along the back to blunt the edge slightly. There is flat smooth retouch on those ends that are retouched. Fine irregular denticulation is formed in the majority by upper-face retouch.

   b) Retouch on one end or both ends (44 examples). Largest 88 × 20 × 4 mm., smallest 21 × 11 × 3 mm., average 45 × 16 × 4 mm. Figure 161:8.

About two-thirds are retouched across one end only (as in Fig. 161:8), the remainder across both ends. The retouch is mainly flat smooth but can be neat nibbling if the blade section is very thin. One-fourth have one oblique end. Almost half, which have no retouch on the working edge (see left edge of Fig. 161:8), were used in their primary state but sometimes show slight denticulation from use. A few of the remainder are denticulated by retouch on the bulbar face or on both faces. Most of the balance are denticulated by upper-face retouch. Although the backs are not retouched, many show signs of use (see right edge of Fig. 161:8).

3. Bi-edged sickle blades (30 examples). Largest 83 × 27 × 7 mm., smallest 21 × 16 × 4 mm., average 46 × 16 × 4 mm. Figure 161:6.

   A few are extremely short and slender (comparable with slender examples of type 1*c*), but the remainder are fairly broad. Two have one oblique end. Most have some additional retouch (cf. type 2). There is smooth retouch on one or both of the ends; in a few cases the back was partially retouched by either steep or nibbling retouch, apparently after that edge no longer functioned as a sickle edge. Only one sickle blade was used in its primary state without retouch of any kind at the ends and edges. The majority are denticulated by retouch along one edge only. The denticulation is mainly by upper-face retouch.

4. Sickle blades with no retouch except on working edge (35 examples).

   a) Broad and fairly long (12 examples). Largest 55 × 21 × 6 mm., smallest 20 × 20 × 4 mm., average 44 × 19 × 5 mm.

   A few of these sickle blades seem to be broken and may have been longer originally. Five examples have one diagonal end. Six were used without any retouch on the working edge. Five are denticulated by bulbar-face retouch (one example with extremely broad coarse teeth) or by both bulbar- and upper-face retouch. Only one example is denticulated by upper-face retouch alone.

   b) Small and slender, similar to Phases A–B type (23 examples). Largest 50 × 14 × 4 mm., smallest 14 × 18 × 4 mm., average 33 × 14 × 4 mm. Figure 161:4.

   Two have one diagonal end. Seven were used without any denticulation. Eleven are denticulated by upper-face retouch, a few being deeply faceted. One has bulbar-face retouch. Four combine bulbar- and upper-face retouch.

BLADES

The largest measures 117 × 19 × 6 mm., the smallest 50 × 13 × 5 mm., and the average is 73 × 19 × 6 mm. More than half of the twenty-four examples are broad and fairly long (Fig. 161:10). These tend to be irregular in shape, varying in width and with the lower end askew or terminating in hinge fracture. The remainder of the blades are slender, shorter, and more symmetrical in shape. (Hence the average size has little meaning.) The striking platform in all cases is very small and plain and often shows marks of battering. In most cases the upper face at the extreme bulbar end is much scarred, presumably by battering of the core before the blade was removed. In about one-third of the examples (including a few slender blades) one of the widest parts is just below the bulbar end; the blade flares out abruptly just below the bulbar tip and then usually tapers off gradually (Fig. 161:10). Almost all the blades were used. About half have no retouch; the others have nibbling retouch along one or both of the edges, usually on the upper face.

BLADE SECTIONS

Fifty-six are bulbar tip (average 45 × 18 × 5 mm.), eighty-two are middle (average 35 × 16 × 5 mm.), and twelve are end (average 53 × 18 × 5 mm.) sections. The largest measures 79 × 24 × 4 mm., the smallest 21 × 10 × 2 mm. Less than half are from slender neat blades; the remainder are from broader blades, many asymmetrically shaped. The ends are mainly squarely snapped and without retouch, but sixteen sections have one diagonal end and a few ends are smoothly retouched. All the sections show signs of use along the edges. About three-fifths were used without any retouch on the edges. Of those with retouch, a few are steeply re-

touched along the back and the rest have nibbling retouch, usually along one edge but in a few cases on both edges. In the majority the retouch is on the upper face. A fair number, however, have a combination of bulbar- and upper-face retouch; in only a few is the retouch confined to the bulbar face.

The bulbar tip sections show tiny plain striking platforms, many battered. In most cases the upper face at the bulbar end is much scarred as a result of preparation of the blade core. The illustrated complete blade (Fig. 161:10) shows this feature to some degree. About one-third of the bulbar tips (perhaps more, but retouch is difficult to judge in some sand-colored examples) are retouched on the bulbar face in such a way that most or all evidence of the striking platform is removed. Half of the bulbar tip sections are quite broad and come from irregularly shaped blades. Most of these splay out directly below the striking platform to a great width (Fig. 161:11; see also No. 10). The remainder of the bulbar sections are from slender symmetrical blades. Only a few of these splay out below the striking platform.

BORERS

Five of the nine examples are made on very small blades or blade sections (Fig. 161:3); the rest are on somewhat larger and broader blade sections or blades. Three of the borers have an extremely short point, with the retouch confined to the point itself. In the remaining six, one of which is double-ended (Fig. 161:3), the point is much longer; the retouch, which is mainly steep and smooth, extends down much if not all of the edges, thus strengthening the tool. The retouch is confined to the upper face for the most part, but one borer has a blunt point formed by alternate retouch. Three of the examples have a bit of bulbar-face retouch directly at the point.

GRAVERS

All five examples are on substantial blade sections (average 53 × 19 × 6 mm.). Four are single-blow gravers. One of these is double in that it has a graver facet on each side of the transverse end. It shows evidence of several resharpenings. Another of the single-blow gravers was originally a sickle blade with retouch on edges and ends. The fifth specimen is an angle graver, straight and somewhat obliquely trimmed.

SCRAPERS

All five examples are on fairly thick flakes. Three are somewhat circular in plan and more or less of a size (largest: d. 49, t. 13 mm.). In two, about half the edge is neatly curved and trimmed with flat steep retouch. In the third, about the same amount is trimmed, but the worked part of the edge is shaped into two protruding noses which were used for scraping. The retouch on this example is fairly rough. The other two scrapers are elongated and somewhat oval in shape. The larger one (63 × 28 × 10 mm.) is a neatly made side scraper with steep fairly flat retouch along one slightly convex edge. The smaller one (t. 19 mm.) has rough steep retouch around the entire circumference, and one end is worked into a nose.

END SCRAPERS

These (8 examples) are made for the most part on fairly broad blade sections, with the working end slightly convex. In two cases the working end is straight. In most of the examples the retouch is smooth and quite steep, but in a few cases it is rough. In three of the scrapers there is some steep retouch along the edges. In one (Fig. 161:12) there is an abundance of steep retouch along one edge, which, combined with the fact that this edge is slightly convex, suggests that the tool was probably used as a side scraper also.

FABRICATOR

This is a long fairly thick blade section (79 × 21 × 7 mm.) with extremely steep retouch along both edges and both ends. The retouch is rough and for the most part on the bulbar face. Both ends are tapered, one being rounded off and the other somewhat pointed.

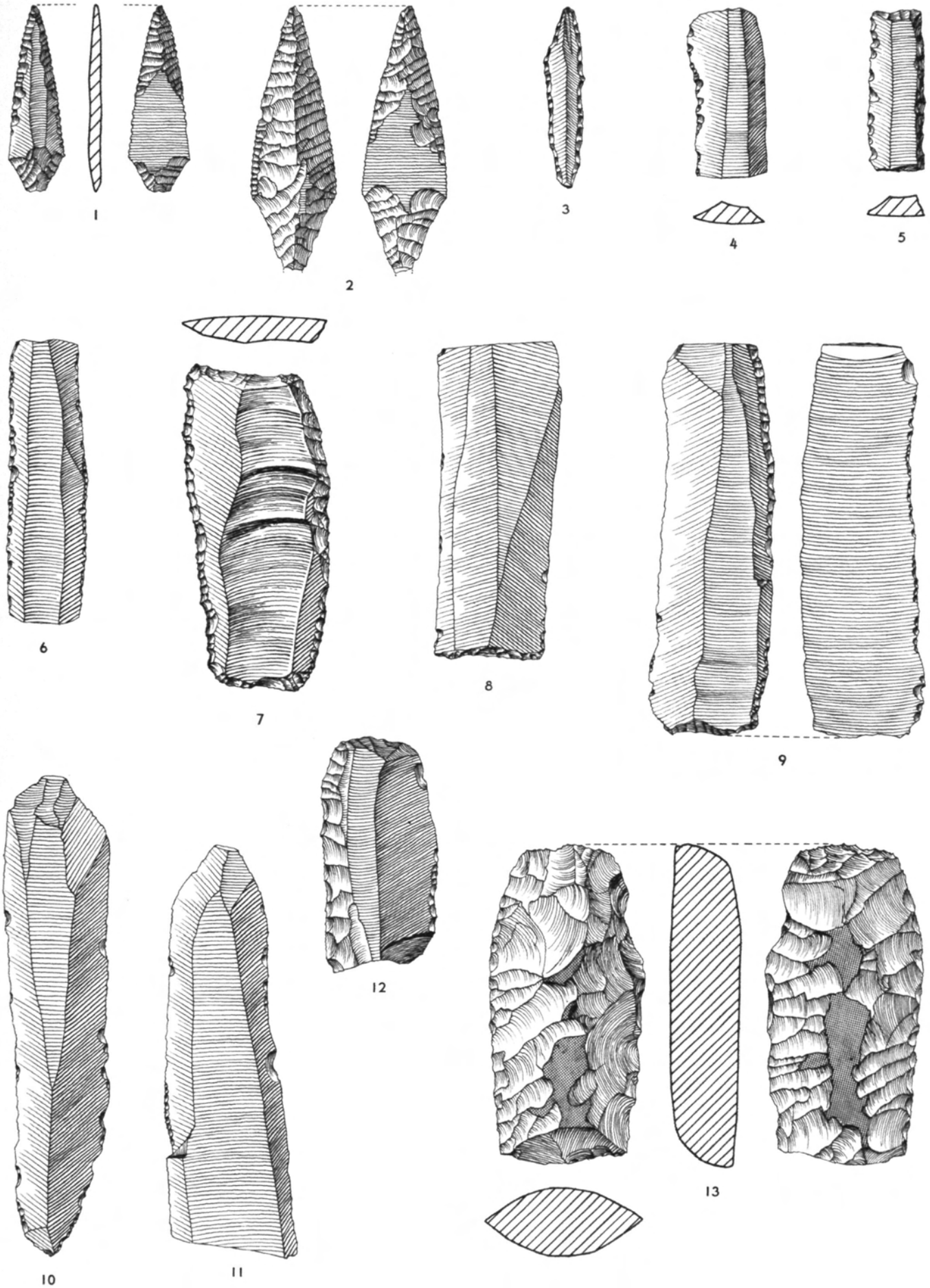

FIG. 161.—PHASE E. FLINTS AND A CHALCEDONY TOOL (*13*). ACTUAL SIZE

FLAKES

These (6 examples) are small and irregularly shaped. Though none are retouched in any way, all show signs of use along the edges.

Lames de dégagement

Both examples are small and slender. One is a blade, the other a bulbar tip blade section. Each is roughly battered on one side of the midrib. The blade shows some signs of use. The section has a pointed bulbar end, formed by upper-face retouch. The opposing, snapped, end is steeply retouched. One edge has some nibbling retouch on the bulbar face. Both edges show signs of use.

VARIOUS TOOLS

These twenty-eight artifacts, for the most part blade sections with quite a bit of retouch, were obviously used as tools, but they do not fit into any general tool types. The retouched sections fall into three groups according to retouch. About a third have such rough steep retouch along the edges that the outline of the tool is quite scalloped. About another third have steep retouch, for the most part quite smooth, along the edges and in some cases across the ends. A few in this group were probably intended as sickle blades, though they do not show any of the characteristic sheen. The last third have nibbling retouch, for the most part quite neat, along much of the edges.

A broken tool (ends missing) on a blade section apparently was originally a tanged implement. Both edges are tapered at one end by smooth steep retouch on the upper face. Another blade section has a sharply pointed end formed by removal of facets along one edge as in a graver. The position of the facets shows that the tool was resharpened. The working end is pointed, however, and not chisel-edged as in gravers. Another blade section would be classified as a core tablet if its transverse section were rectangular instead of triangular. It was, however, removed from a used core. Half of the upper face (up to the midrib) is plain and was originally the striking platform of the core. The other half shows bulbar scars left by small facets (just below the striking platform) that were detached from the core in preparation for removal of a broad blade. Portions of scars are also present that indicate removal of a broad blade with extremely narrow bulbar end (see p. 209 for description of such blades).

Two objects—a middle blade section and a wedge-shaped flake—each have one edge blunted or rounded off by grinding. In each case the opposing edge shows signs of use.

One tool is made of tabular flint (Pl. 65:18). It is rectangular in plan and wedge-shaped in transverse section (86 × 27 × 6 mm.). The flaking is concentrated along one long edge to make a sharp straight working edge. Both surfaces along this edge are covered with neat flat retouch (with parallel flake scars *ca.* 11 mm. long). In addition the edge itself is nibbled on both surfaces, but whether by use or by intentional retouch is difficult to say. The rest of the surfaces are smoothed but unflaked and still have bits of cortex adhering. The back (parallel to flaked working edge) is still covered with cortex but probably received some grinding, for it is smooth and the edges are rounded off, thus making the tool easier to hold. A tool of tabular flint occurs in Phase C also (Fig. 119:13).

Finally, a chalcedony tool (Fig. 161:13) is included here for want of a better classification. It probably was shaped from a good-sized pebble by bifacial flaking. One edge (extreme left in illustration), shaped by careful retouch from both faces, is straight and sharp. A portion of the other edge was broken off (probably by a pick during excavation). To judge by the intact lower portion, it seems likely that this edge too was sharp, but jagged rather than straight. The two ends are shaped by much coarse retouch into convex adzlike working edges. If the tool

served as an adz (as well as for cutting) it is strangely out of place in the ʿAmuq, where adzes and axes were produced by grinding and polishing.[12] Bits of polish on both faces (indicated by screen pattern in drawings) may be natural for the most part, representing the original condition of the pebble. In one small area, however, the polish seems to be artificial, for it overlies flake scars.

Obsidian Artifacts

A large amount of obsidian is used in Phase E. More surprising is the fact that there are quite a few (i.e., for obsidian) worked tools (230).

BLADES AND BLADE SECTIONS

The eight blades (largest 55 × 15 × 3 mm., smallest 24 × 7 × 3 mm., average 39 × 11 × 2.5 mm.) are all nibbled by use.

There are seventy-six bulbar tip, eighty middle, and twenty end sections. The longest measures 47 × 9 × 2 mm., the shortest 12 × 9 × 2 mm. The broadest is 24 mm. wide, the narrowest 5 mm. Bulbar tip sections average 27 × 11 × 2 mm., middle sections 23 × 10 × 2 mm., and end sections 27 × 9 × 3 mm.

All the blades and bulbar sections show a small plain striking platform. Some of the blades and quite a few of the bulbar sections show much scarring of the upper face at the bulbar end (as a result of core preparation) and abrupt fanning-out to a great or greatest width at this end, a feature very common among the flint blades and blade sections (see pp. 209 f.).

All the sections show signs of wear along the edges. Only twenty-five seem intentionally retouched, by neat nibbling retouch usually along one edge and occasionally along both edges. Seven sections have a slight notch nibbled out on one edge. The retouch is mainly on the upper face.

BORERS

The two borers are quite similar in size (larger example: 38 × 12 × 2 mm.) and treatment. Both are on bulbar tip sections. The rounded working end is in each case quite strong despite the relative thinness of the blade. Neat nibbling retouch covers the edges of both at the point and extends far down the sides. The retouch is alternating.

GRAVER

This is a small (24 × 10 × 3 mm.) straight oblique angle graver made on a blade section.

SCRAPERS

All four examples are on small rough flakes. In one the scraping edge is concave; in the remainder it is slightly convex. In each case only a small portion of the edge is steeply trimmed to serve for scraping. One example has a small amount of grinding along the working edge in addition to the steep retouch and was probably originally intended for some other purpose.

END SCRAPERS

All five are on blade sections (average 30 × 12 × 4 mm.) and have smooth steep retouch at one end; one is retouched at both ends.

FLAKES

All twenty-four examples are small and rough and show signs of use.

[12] The sharp edges of the tool and the shaping of the adzlike ends by much retouch likewise seem out of place in areas (e.g. Palestine and Egypt) where adzes and axes were commonly made by a flaking process. For in those areas such a tool would have blunted edges and the bit would normally be formed by the removal of one large flake or by polishing.

VARIOUS TOOLS

A fragment of a neat blade core shows wear along the edges. One portion shows removal scars of the ends of small neat symmetrical blades; blades were removed from only half of the circumference of the core. The back of the core shows battering along one side of a flake ridge. The ridge is parallel to the blade scars on the other side of the core.

A broad middle section of a blade has fairly steep alternate retouch along both edges.

Five pieces—a flake and four blade sections—have bits of grinding along their edges (see p. 220 for grinding of obsidian beads and a pendant). In two cases the grinding is around a bulbar tip edge. Probably neither object was used as a borer, for one is too thin and fragile and the other too broad. Another blade section has bits of grinding to round off both ends slightly, as in the scrapers. The fourth blade section, much nibbled along the edges and strangulated, has grinding along parts of the edges. The flake is rather thick and has nibbling retouch along some of the edge and bits of grinding along some of the same spots as well as on the upper face. The grinding seems more experimental than practical in these few examples.

Three interesting tranchet-like objects (e.g. Pl. 65:11) are fairly uniform in size, the longest measuring 23 × 13 × 3 mm. They seem to be made on portions of blades. The sharp working edge (w. 13 mm. in each) is the original unretouched blade edge. The transverse section is rectangular; the longitudinal section is triangular, with the working edge the apex and the back the base of the triangle. The back, originally the blade's second edge, which has been struck off, has a plain surface. The under face (bulbar) is a plain flake surface. Most of the broad upper face is covered with fairly flat retouch, half being oriented to one side of the tool and half to the other side. The two side edges themselves are smoothly and steeply retouched. The working edge in each example is nicked by use. It is not clear what these tools were used for. The shape and size suggest chisel-like arrowheads, but the nicking and worn edges are not in accord with use as projectile points. The edges suggest, rather, a cutting function.

GROUND STONE OBJECTS

In this phase some use is made of grinding (and in some cases polishing) in combination with flaking. Since this treatment is not characteristic for any one class of object, the few examples involved are described with the categories to which they belong (flints, p. 212; obsidian implements, p. 214; obsidian beads and a pendant, p. 220).

VESSELS

Fifteen fragments are described here.[13] The majority represent low saucer-like vessels and subhemispherical bowls. One bowl is oval in plan, and a few other vessels were probably oval or rounded rectangular. Divergence from the round plan in stone vessels is unusual in the ᶜAmuq. The only other examples are a cup of oval plan from Phase G (Fig. 247:4), a rectangular vessel (x2487) from Phase H (see p. 383) and one (T3445) from Phase J (see p. 456).

Vessels with rounded sides range from small saucers to deeper bowls. The most shallow (Fig. 162:1) has rounded lip and flattened base. It was probably rounded rectangular in plan (cf. Fig. 162:5). The fragment suggests a length or width of *ca.* 100 mm. A small but somewhat deeper vessel (Fig. 162:2), with rounded lip and rounded base, was most likely round in plan. A large fairly deep subhemispherical bowl (Fig. 162:3) has a flattened lip. A smaller more shallow vessel with rounded lip and slight change of plane at the base (Fig. 162:4) was round in plan. Our fragment is polished from use on one of the broken edges, and bits along the rim and along the other broken edge show battering. A double-bored perforation near the rim

[13] Two additional fragments (K1, K56), which were not sent to Chicago, are briefly registered as fragments of stone bowls, one (K56) with down-slanting ledge rim.

was possibly made after breakage; the lower broken edge shows a portion of another perforation, which was placed far from the rim. An extremely shallow dish with rounded lip and rounded base (Fig. 162:5, Pl. 67:3) was most probably rounded rectangular in plan. A shallow narrow groove on the inside outlines the base. Two lugs, placed horizontally on the exterior below the rim, may represent decoration. Since the size of the dish (i.e., width and length) cannot be estimated, it cannot be suggested how many lugs were used or how any additional lugs may have been placed (i.e., whether the lugs were confined to one end). A larger deeper bowl (Fig. 162:6, Pl. 67:7), with slightly flattened base and flattened lip, is oval in plan. A narrow vertical lug at the rim seems more decorative than functional, considering the weight of the bowl. Finally, there is a fragment which shows a ring base (Fig. 162:15). It is from surface debris and may thus belong to Phase C, D, or E.

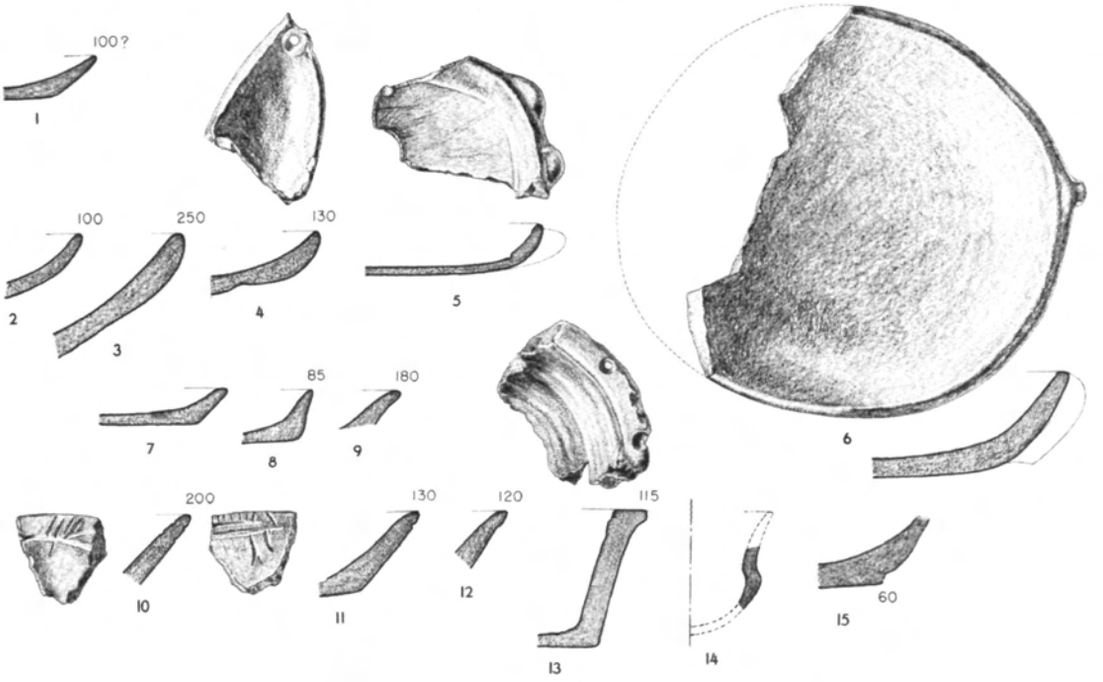

FIG. 162.—PHASE E. FRAGMENTARY STONE VESSELS. SCALE, 1:3

A good number of the fragments represent straight-sided vessels, ranging from low saucer-like forms to cuplike forms and deeper bowls. The most shallow (Fig. 162:7) has slightly flattened lip and flattened base. It was probably rounded rectangular or oval in plan, for the small amount of rim and base curve preserved would indicate a diameter greater than 240 mm. for a circular object. The fragment seems too thin, especially at the base, to be part of such a large container. Since at least one fragmentary vessel of Phase E is known to be oval in plan (Fig. 162:6), it is much more reasonable to assume that No. 7 represents a portion of a rounded rectangular or oval vessel. A small saucer-like dish of round plan has flattened base and thin pointed lip (Fig. 162:8). There are rim fragments of two larger deeper bowls (Fig. 162:9–10), both with rounded lip and presumably round in plan. No. 10 is decorated at the rim, on both exterior and interior, with crude linear incision. A fragment of a cuplike vessel with flattened base and rounded lip (Fig. 162:11) is decorated with a shallow groove around the outside below the rim. This fragment was used as a rubbing tool. Another cup fragment with rounded lip is decorated with a raised band on the outer rim (Fig. 162:12). A third cup fragment (Fig. 162:13) has a broad flattened outsplaying rim with a double-bored perforation. Another boring was begun immediately adjacent to the perforation, from the underside of the rim.

In an attempt at perforation from the upper surface, the rim edge was broken through (see drawing). The interior of the cup is heavily scored by reaming marks. This fragment comes from the uppermost 50 cm. of trench IV, which yielded a mixture of Phase C and Phase E pottery (see p. 18). The perforation at the rim may be an indication that the vessel belongs in the earlier phase rather than here (see p. 154, n. 8).

A fragment of a small sinuous-sided container (d. at carination seemingly 70 mm.), made of obsidian, is beautifully ground and polished (Fig. 162:14). It comes from surface debris and may thus belong to Phase C, D, or E. The pottery forms suggested by this fragment, and on which the reconstruction is based, are found mainly in Phases B–E.

Celts

The eight examples[14] are all ground and polished, usually over the entire surface.

There are two large tools—an ax and an adz. The ax (Fig. 163:1) is broken at the butt end. There is no beveling of the faces, which slope equally to the sharp convex working edge. The tool is smoothly shaped by grinding. The only polish is on the areas surrounding the

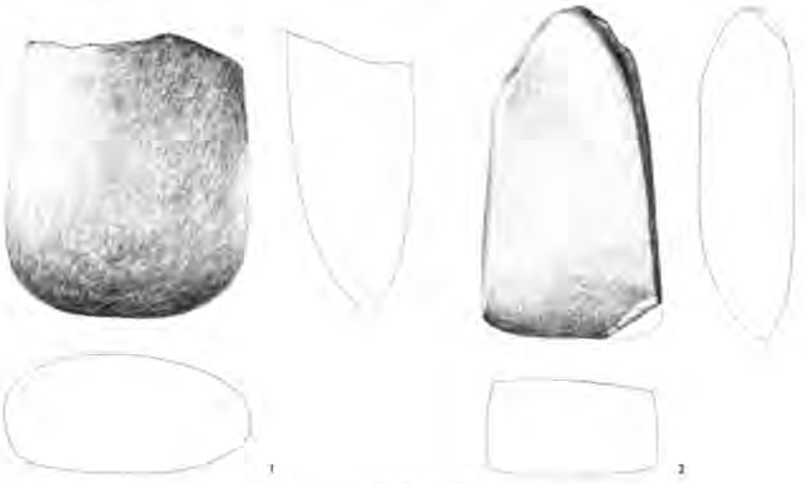

Fig. 163.—Phase E. Large Celts. Scale. 1:2

working edge. The adz (Fig. 163:2) is much worn. Only slight poorly defined beveling of the faces is noticeable at the working end. The slightly convex working edge is blunt and shows signs of hard use. The tool is not carefully shaped, for it is not quite symmetrical in form and the butt is only roughly rounded off, but all surfaces are well polished.

The remaining celts are small tools. One is axlike, one is adzlike, and four are chisels.The axlike tool (Fig. 164:1) is neatly made, with sharp convex working edge that is nicked by use. There is no obvious beveling, both faces tapering gently to the working edge. The adzlike tool also (Fig. 164:2) is well made and shows hard usage; much of the butt end is broken off. The sharp straight working edge is formed by asymmetrical beveling of the faces, fairly well defined on the face illustrated and fainter on the other. The four chisels have adzlike profiles. All except one (Fig. 164:4) have part of the butt broken away. All are rectangular in transverse section. The working edges in all are straight and sharp and show signs of use. All are symmetrically shaped and neatly made. Two are made with one face fairly flat and the other sloping abruptly to the working edge. In one of these (Fig. 164:3) the bevel is oblique and poorly defined. In the second example (K75; 38 × 13 × 9 mm.) the beveling is parallel to

[14] Not including an object (K129) registered as a reused fragment of a celt, which was discarded without being catalogued.

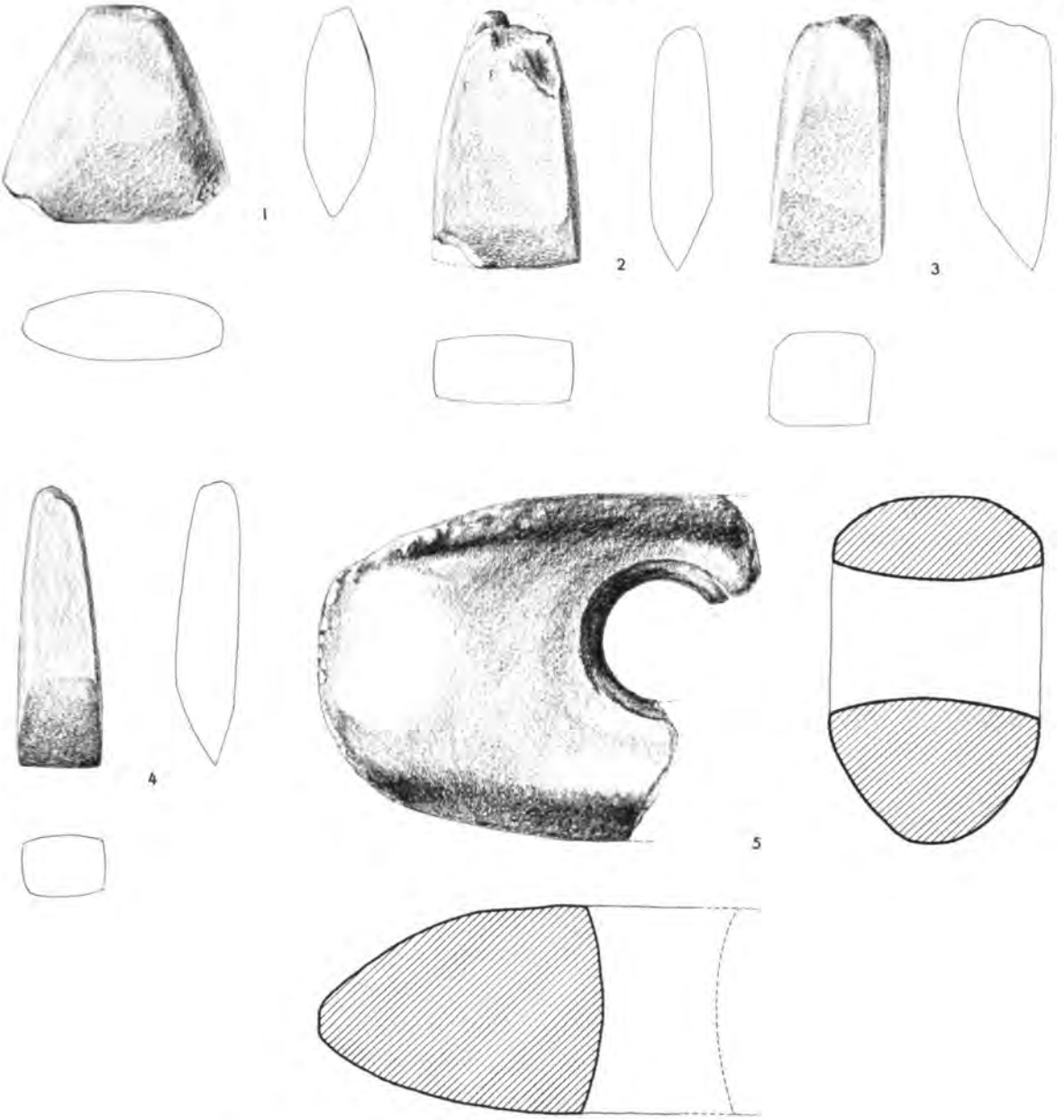

FIG. 164.—PHASE E. SMALL CELTS (*1–4*) AND AN ADZ(?) WITH SHAFT HOLE (*5*). ACTUAL SIZE

the working edge and more marked. In the other two chisels both faces are inclined toward the working edge. One face slopes abruptly, and the beveling is poorly defined with rounded outline. The other face is gently tapered, with very faint beveling of rounded outline in one example (Fig. 164:4) and oblique in the other (K9; 50 × 19 × 11 mm.).

SHAFT-HOLE ADZ?

This fragment (Fig. 164:5, Pl. 68:11) is adzlike in profile and was hafted like an adz. The convex working edge, however, is quite blunt and rounded and shows some battering. It is therefore not certain whether the implement was actually used as an adz. The battering is more pronounced on the sides, where they curve to meet the working edge, than on the working edge itself. The surfaces, including the perforation, are quite smoothly ground and polished.

Pounder

Although no mortars were found, one pounder appeared (Fig. 165:1, Pl. 68:17). The entire surface is pecked into shape, but not ground. The broader end is very smooth, though slightly pitted, and shows some polish from use on the higher areas.

Whorls

Two whorls are disklike, with straight side and double-bored perforation (Fig. 165:2, Pl. 69:5). The example which is not illustrated (K144) is 40 mm. in diameter and 5 mm. thick. The third whorl (Fig. 165:3), with large perforation and unusual shape, is atypical. The fourth (Fig. 165:4, Pl. 69:6) is very irregular in shape and may have been made from a pebble with a minimum of grinding. The plan, as in the other whorls, is fairly circular.

Macehead?

A fragment of an oblate spheroid (Fig. 165:5) is ground but not polished and is much scarred. It seems likely that short linear incisions placed at right angles to the perforation and at right angles to one of the breaks, as well as much of the scarring, were done after the object was broken. The largeness of the perforation and the considerable weight of the object suggest that it was used as a macehead, though it is smaller than the average macehead.

Unclassified Objects[15]

A fragment (Fig. 165:6) of a limestone object which was probably oval in plan and elevation has a double-bored perforation which is too small for a tool, such as a hammer; in addition, there are no signs of battering. The surfaces are smoothly ground and polished. The object seems large for a bead but may possibly have been used as a toggle or a weight. An oblate spheroid of chalk with a boring in each end (Fig. 165:7) was apparently used in its present state, for much of the surface shows polish presumably from use. A limestone object (present l. 74, w. 45, t. 27 mm.) with a centered boring in the upper surface (Fig. 165:10) was made from a pebble without a great amount of trimming, for the under surface is slightly bumpy and the upper surface is not overly smooth. The sides are very smooth, however. One use may have been as a hammering tool, for one end is much chipped and battered. A disklike object (Fig. 165:9) of red marble has two lightly incised concentric circles surrounding a boring in the upper surface. All surfaces are ground and polished, but much of the edge is chipped and battered by use. A thin disklike object (Fig. 165:8) of chlorite-rich greenstone is smoothly ground. Two objects (not shown) seem to represent unfinished products. A flat soapstone piece (K121*a*), ground into a roughly pentagonal plan (gr. w. 40, t. 10 mm.) may be an unfinished whorl. An object of amphibole rock (K128; 43 × 23 × 17 mm.) was probably intended as a chisel. Three of the surfaces are smoothly ground. The fourth surface shows remnants of two grooves (with roughened surface between) which represent the plane where this piece was struck off from a larger mass. The object was probably discarded because of shattering in the splitting-off process.

Beads

The majority of the twenty-six stone beads[16] are fairly small. They are mainly short and disklike or long, both barrel-like and flattened. There are also some oblate spheroids and an unusual button-like type. Most of the perforations are double-bored.

[15] Note should be made of an object (K13) that missed being catalogued but is registered as an incomplete box lid or palette of steatite, with perforations on one edge.

[16] See p. 204 for clay beads.

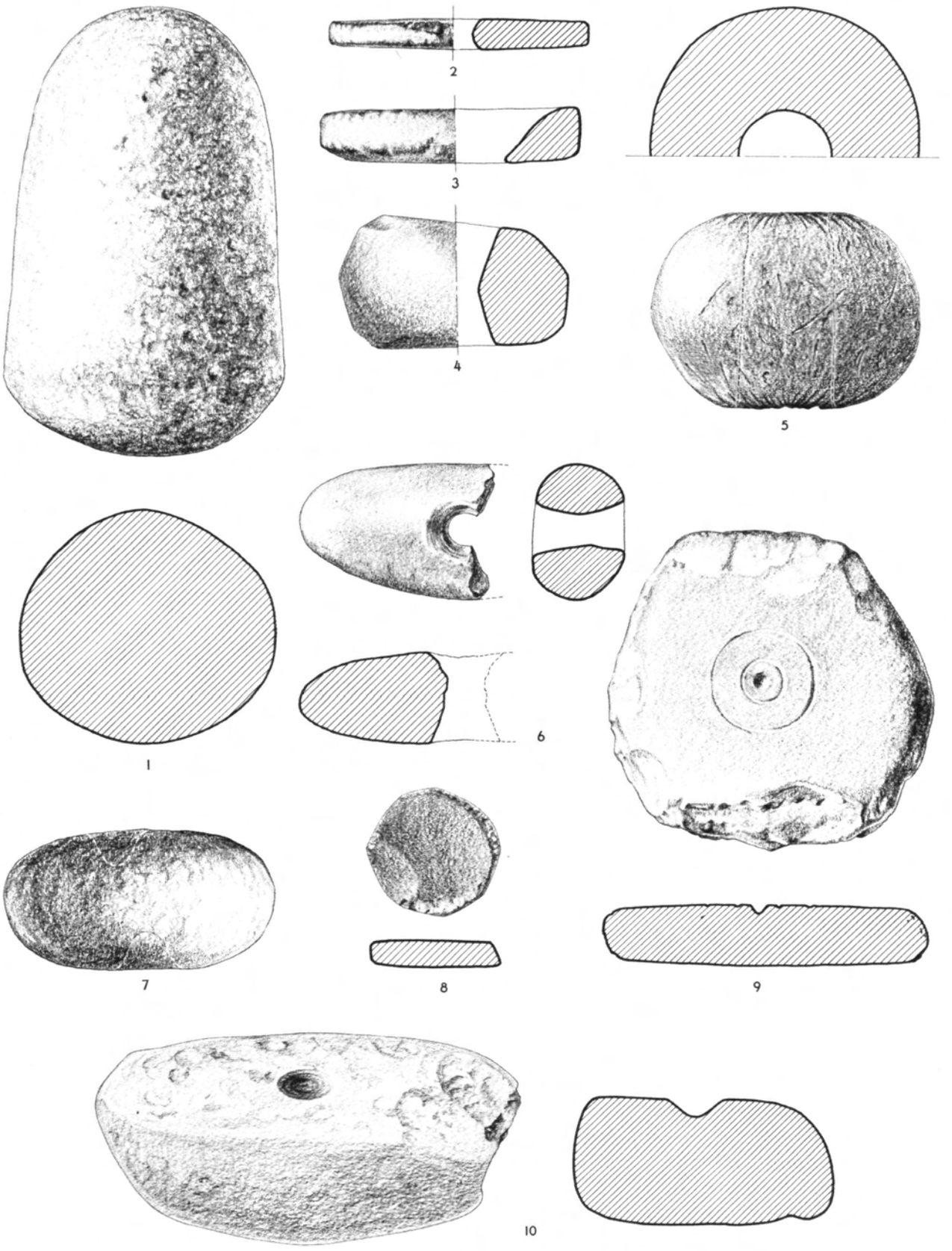

Fig. 165.—Phase E. Ground Stone Objects. Actual Size

Four beads are oblate spheroids (Fig. 166:1–2). One (K23*b*) is so flattened that it approaches an oblate disk. Another (Fig. 166:2) has squared-off ends and a faint carinated bevel around the edge.

A disklike bead (Fig. 166:3) of obsidian shows flake scars on both ends, but one end is also ground over a small area surrounding the perforation. The side is slightly beveled by grinding.

Five disklike beads are round in plan (Fig. 166:4–5), three are more or less oval (Fig. 166:6), and one (Fig. 166:7) is multisided. The perforations for the most part are quite large; No. 4 has the largest perforation, No. 6 the smallest. No. 5 is atypical in having two perforations. A few of this group are carelessly made.

Longer beads include a prolate form (Fig. 166:8), two cylinders (Fig. 166:9), a barrel (Fig. 166:10), and a barrel-like form (K8*b*) with rounded triangular transverse section. Three long beads are flattened (Fig. 166:11–13) and notched at the perforation ends. In No. 13, a handsome bead of obsidian, the notches seem to be an afterthought, for they are roughly chipped out and not ground whereas the other surfaces are smoothly shaped and finished by grinding and polishing.

The four button-like beads are of obsidian. Three are made by grinding and polishing. The largest and thinnest of these is illustrated (Fig. 166:14, Pl. 70:13). The bases are highly polished. The perforated ridges and the edges are ground and slightly polished. Depressed areas on the back, on either side of the ridge, are ground but not polished. One example (K61) was never finished, for its back is not completely roughed out by grinding; it must have been broken in the making. The fourth button-like bead (Fig. 166:15) received less working. The base consists of the original concave flaked surface and is not ground. The back and the edge are ground into shape but unpolished.

Pendants

There are seven pendants, only three of which (Fig. 166:18, 21 and K127) are polished.

The simplest examples (Fig. 166:16–17) are small flat stones, used more or less in their original shape with only a minimum of grinding. No. 16 was probably used without any preparation other than boring. A long pendant (Fig. 166:18) is a broken bead, probably damaged while being perforated because the perforation was too large in proportion to the thickness of the object. The broken edges and the intact upper surface are smoothly ground. A small obsidian pendant (Fig. 166:19) is borer-shaped. The original flaked surfaces remain, and the edges show nibbling retouch. The edges also received a small amount of grinding, a feature found occasionally in the obsidian tools of Phase E. A well made diamond-shaped pendant (Fig. 166:21, Pl. 71:3) is plano-convex in section. The lower end was broken in an unsuccessful attempt at perforation. A crudely made pendant (Fig. 166:20) was roughly blocked out. It is scored and pitted but has slight polish, perhaps from use, on the main surfaces. The shape is intentional and probably had some significance. A well polished thin fragment (K127) may be part of an oval with rectangular cross section.

Stamp Seals

Three seals are small and button-like, with narrow perforated ridge (Fig. 167:1, 2, 5). Another small seal is perforated through the body parallel to the base (Fig. 167:6). Two larger seals have substantial ridge handles, in each case broken at the perforation (Fig. 167:3–4). All the seals are smoothly finished. The designs are geometric. Future excavations may produce seals with representational designs as well, for an object (K92) from Phase E context that unfortunately escaped cataloguing is registered as an unperforated stamp seal with animal decoration. It should be noted here that a seal found in Phase H context may have been made during Phase E and reused in H (see p. 387 and Fig. 297:2).

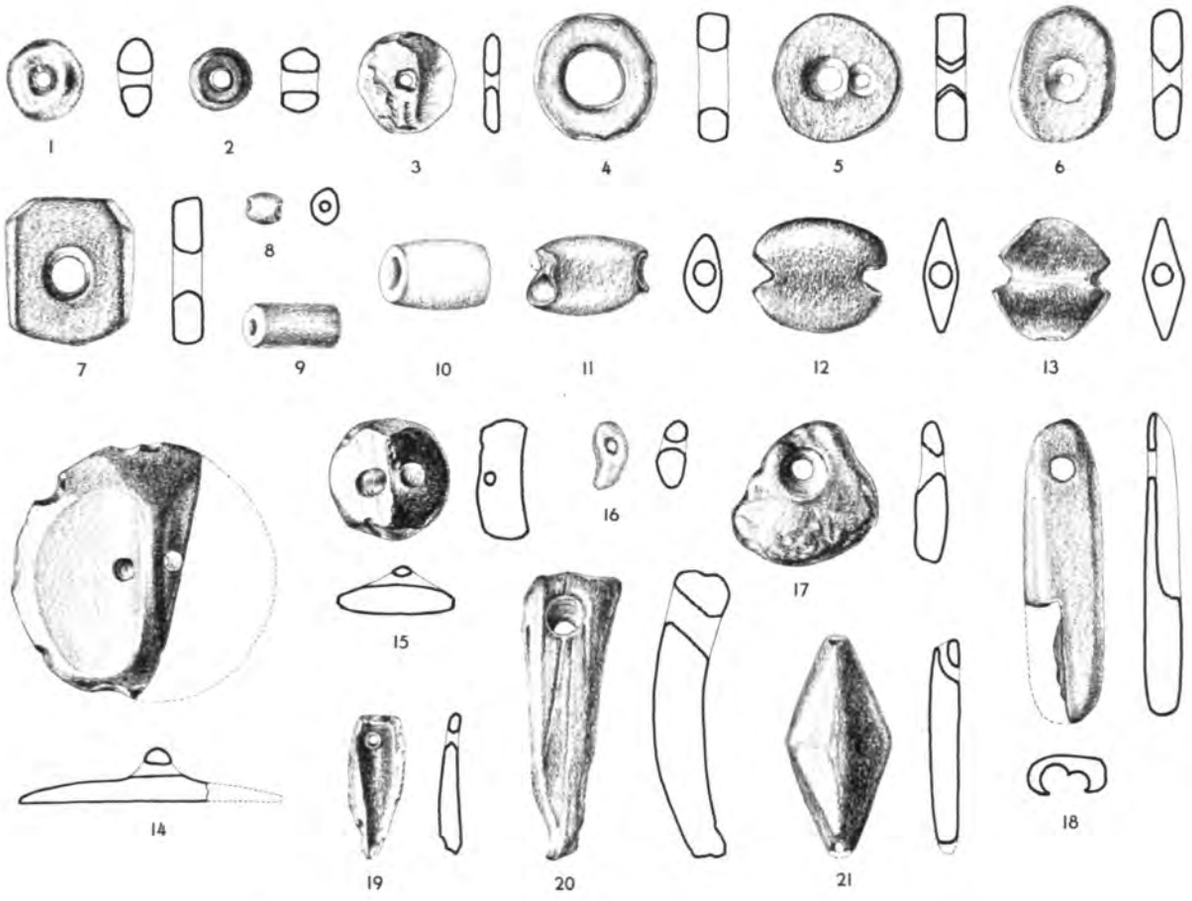

FIG. 166.—PHASE E. STONE BEADS AND PENDANTS. ACTUAL SIZE

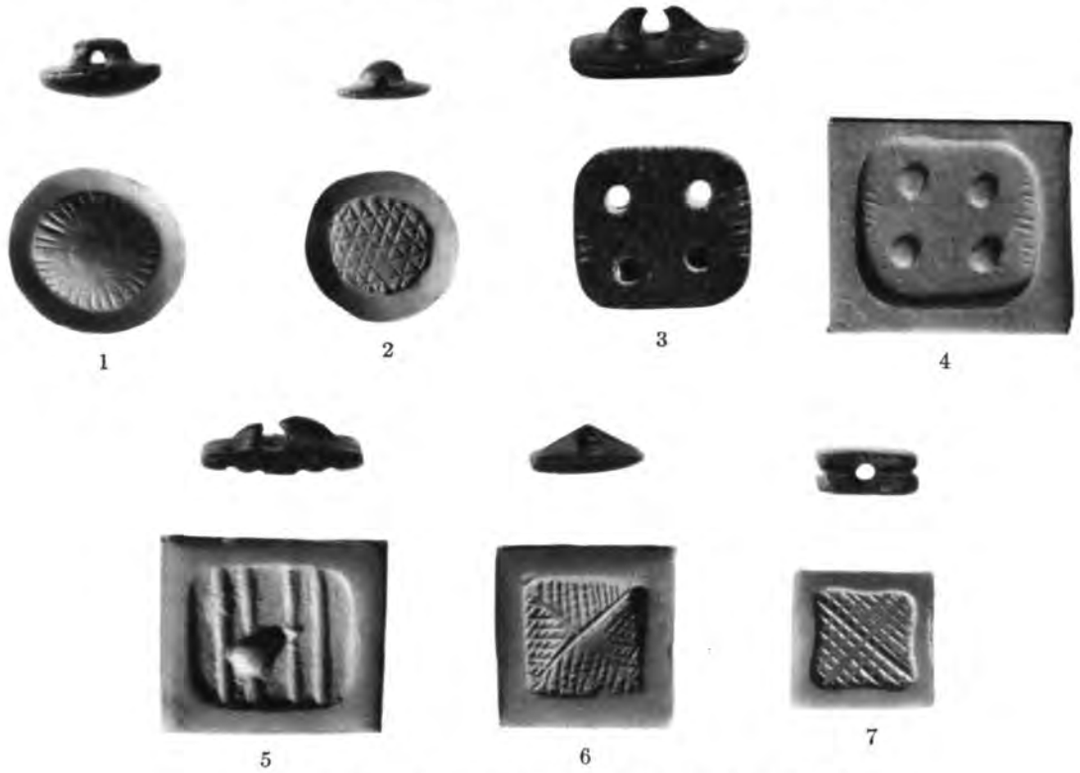

FIG. 167.—PHASE E. STONE STAMP SEALS. ACTUAL SIZE

Two of the button seals have rounded slightly convex bases (Nos. 1–2). No. 3 has a flat squared base, perforated by four drilled holes which form part of the design. No. 4 also has a flat squared base. After the breaking of the ridge handle an attempt was made to perforate the seal at one corner. This attempt was given up, and the seal was then perforated at the thinnest point, that is, where it was slightly hollowed out when the ridge handle was perforated. No. 5, with square convex base, has a more complicated design than the other seals—quadrants with filling in each. No. 6 is perforated in bead fashion along the axis. A fairly deep groove extends around the edge. One surface only is incised.

Stone Identifications

VESSELS

K15 greenstone (Fig. 162:4)
K35 greenstone, almost monomineralic chloritic (Fig. 162:10)
K53 greenstone, almost monomineralic chloritic (Fig. 162:6, Pl. 67:7)
K121*b* chlorite-rich greenstone (Fig. 162:13)
K131 brown rhyolitic obsidian, n = 1.484 (Fig. 162:14)
K132 limestone (Fig. 162:3)
K133 greenstone, almost monomineralic chloritic (Fig. 162:15)
K134 greenstone containing chlorite and talc (Fig. 162:7)
K135 greenstone containing chlorite and talc (Fig. 162:1)
K137 weathered rock (possibly greenstone) (Fig. 162:9)
K138 weathered rock (probably greenstone or soapstone) (Fig. 162:8)
K139 greenstone, almost monomineralic chloritic (Fig. 162:2)
K140 greenstone, almost monomineralic chloritic (Fig. 162:5, Pl. 67:3)
K141 weathered rusty chlorite-rich greenstone (Fig. 162:11)
K142 greenstone, almost monomineralic chloritic (Fig. 162:12)

LARGE CELTS

K38 almost monomineralic, probably anthophyllite, rock (Fig. 163:2)
K157 uralitized diabase containing hornblende, chlorite, and some plagioclase (Fig. 163:1)

SMALL CELTS

K9 light fine-grained rock (possibly hornstone)
K10 serpentine (Fig. 164:1)
K69 wollastonite, $1.626 < n < 1.632$ (Fig. 164:4)
K74 anthophyllite rock containing anthophyllitic and tremolitic amphibole and a few grains of chlorite (Fig. 164:3)
K75 fine-grained gray rock; not identified
K76 epidote-plagioclase rock (Fig. 164:2)

SHAFT-HOLE ADZ?

K34 greenstone, almost monomineralic chloritic (Fig. 164:5, Pl. 68:11)

POUNDER

K151 dolerite containing plagioclase, biotite, pyroxene, and hematite (Fig. 165:1, Pl. 68:17)

WHORLS

K144 impure gray limestone (cf. Fig. 165:2)
K145 greenstone, almost monomineralic chloritic (Fig. 165:3)
K147 chalk (Fig. 165:4, Pl. 69:6)
K173 unidentified rock containing some calcite (Fig. 165:2, Pl. 69:5)

MACEHEAD?

K149 greenstone, almost monomineralic chloritic (Fig. 165:5)

UNCLASSIFIED OBJECTS

K120 greenstone, almost monomineralic chloritic (Fig. 165:8)
K121*a* soapstone containing talc, chlorite, and a few grains of calcite
K128 magnesium-rich fibrous tremolitic amphibole, $n_a = 1.608$
K143 limestone (Fig. 165:10)
K146 limestone (Fig. 165:6)
K148 chalk (Fig. 165:7)
K150 red marble (Fig. 165:9)

BEADS

K7*a* fine-grained rock containing calcite and a mineral with refraction index < 1.600 (Fig. 166:8)
K8*b* marble
K16 marble (Fig. 166:10)
K22 rhyolitic obsidian, 1,496 < n < 1.500 (Fig. 166:14, Pl. 70:13)
K23*a* opaque, amorphous; not identified (Fig. 166:9)
K23*b* rusty weathered greenstone, almost monomineralic chloritic
K24 greenstone, almost monomineralic chloritic (Fig. 166:5)
K25 greenstone, almost monomineralic chloritic (Fig. 166:7)
K26 soapstone (Fig. 166:12)
K27*a* soapstone (cf. Fig. 166:6)
K27*c* opaque, amorphous; not identified (cf. Fig. 166:9)
K29 rhyolitic obsidian, < 1.496 < n 1.500 (cf. Fig. 166:14)
K37 greenstone, almost monomineralic chloritic, with some grains of ore (cf. Fig. 166:4)
K39 soapstone containing talc and chlorite (cf. Fig. 166:4)
K44 greenstone, almost monomineralic chloritic (cf. Fig. 166:4)
K45 soapstone (cf. Fig. 166:1)
K59 chrystolite (gem type of olivine), optic: 2V = *ca.* 90° neg., $n_a = 1.654$, $n_a = 1.686$ (Fig. 166:1)
K60 obsidian (Fig. 166:2)
K61 rhyolitic obsidian, n = 1.484 (cf. Fig. 166:14)
K62 brown monomineralic rock, n < 1.500; not identified (Fig. 166:11)
K65 soapstone containing talc and chlorite (cf. Fig. 166:6)
K66 obsidian (Fig. 166:15)
K71 rhyolitic obsidian, 1.496 < n < 1.500 (Fig. 166:13)
K72 greenstone, almost monomineralic chloritic, with a few grains of talc (Fig. 166:4)
K93*b* rhyolitic obsidian, n = 1.484 (Fig. 166:3)
K93*c* greenstone, almost monomineralic chloritic (Fig. 166:6)

PENDANTS

K12 soapstone (Fig. 166:18)
K21 rhyolitic obsidian, n = 1.484 (Fig. 166:19)
K54 greenstone, almost monomineralic chloritic (Fig. 166:21, Pl. 71:3)
K57 serpentine (Fig. 166:17)
K63 nephrite (hornblende-jade) (Fig. 166:16)
K67 weathered rusty greenstone, almost monomineralic chloritic (Fig. 166:20)
K127 serpentine

STAMP SEALS

K3 soapstone containing talc and chlorite (Fig. 167:1)
K4 greenstone, almost monomineralic chloritic (Fig. 167:2)
K5 soapstone (Fig. 167:3)

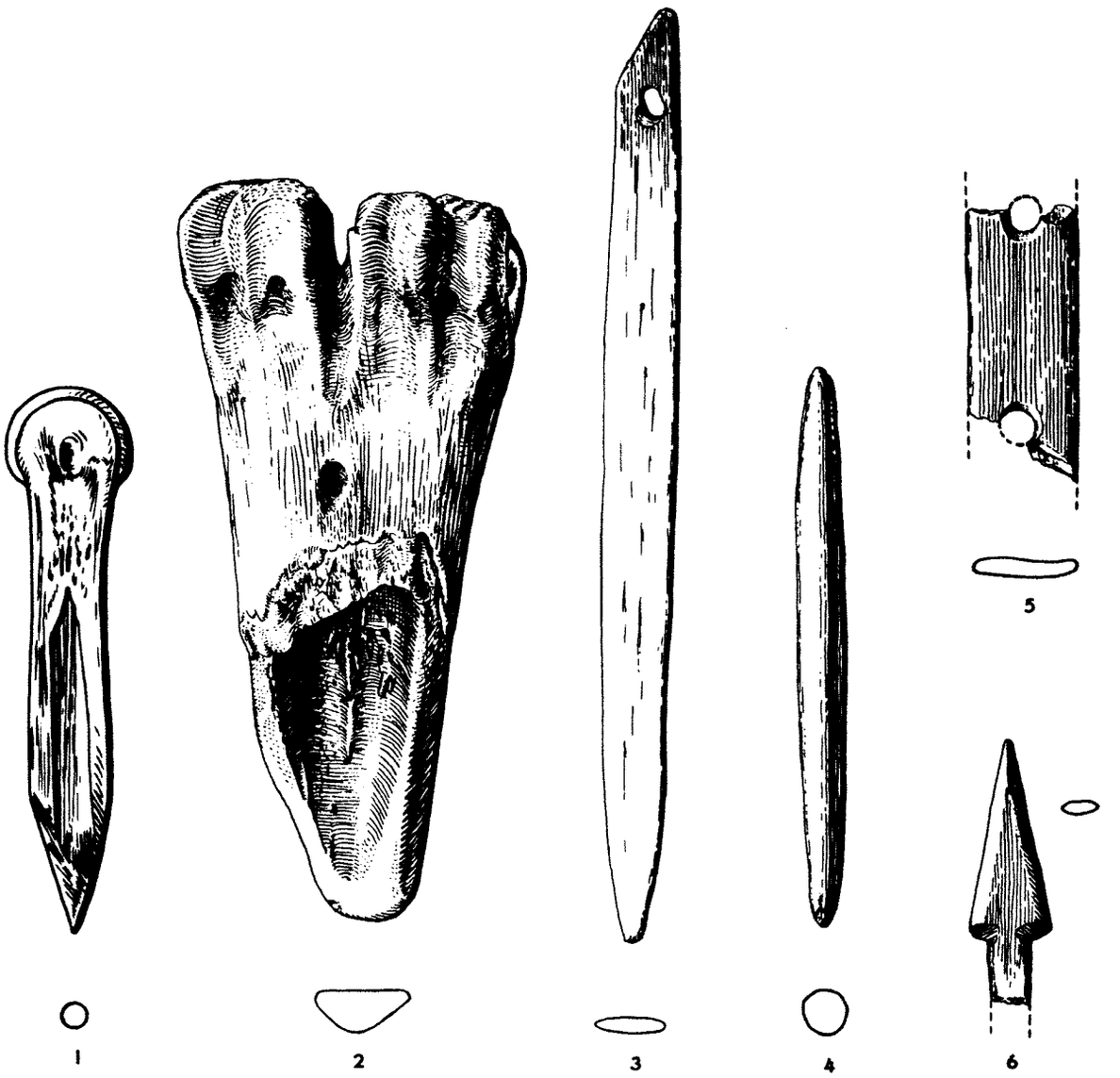

FIG. 168.—PHASE E. WORKED BONE OBJECTS. ACTUAL SIZE

K6 soapstone containing talc and chlorite (Fig. 167:6)
K19 greenstone, almost monomineralic chloritic (Fig. 167:5)
K47 probably weathered greenstone (Fig. 167:4)

WORKED BONE OBJECTS

There are fourteen worked bone objects. Those that were identified by Mrs. Foss are from Bos (Fig. 168:2 and Pl. 73:5), gazelle (K68, K78), sheep (K77), and sheep or goat (Pl. 72:17). The dominant tool, as in the earlier phases, is the awl with articular surface remaining on the butt end.

Of the six awls, one (Pl. 72:17) is made on an unsplit metapodial and retains the whole articular surface as butt. The others are formed on half of the bone (split lengthwise), one with the proximal end (K55) and the remainder with half of the distal end (Fig. 168:1) as butt. The lengths range from 49 to 100 mm. All have a keen sharply tapered point and high polish on most of the surface, including the raised portion of the butt.

A stout tool made on a metapodial has a spatulate working end well ground to a blunt convex edge, which is much nicked from use (Fig. 168:2). The whole articular surface makes a somewhat large and cumbersome handle, but use of the whole bone insures a sturdy tool. Polish from use extends up almost to the butt.

One tool probably served as a chisel (Pl. 73:9). The lower end is ground down to a slightly convex, narrow, sharp working edge. The tool is highly polished right up to the butt.

A large strong metapodial is roughly hacked at one end to a rough blunt point (Pl. 73:5). A little polish from use extends about halfway up the tool. The rough point would be useful for some such purpose as digging in the ground.

There are three perforated bladelike implements. One (Fig. 168:3, Pl. 75:1) is sharp-edged but delicate (t. 2 mm.). The upper end tapers off to a flat blunt point with blunt edge. The lower end also is blunt-pointed, but with sharp edges. The perforation is large and double-bored. Both surfaces are well polished. This object would be useful for simple weaving. The second example is equally fragile (t. 2 mm.) and sharp-edged (Pl. 75:2). The complete end is well smoothed but blunt. The perforation is single-bored from the upper surface. A sturdier fragment (t. 3 mm.) has two double-bored perforations (Fig. 168:5, Pl. 75:7). Its edges are blunt. All three implements expose bits of cancellous tissue on one face despite strenuous polishing.

A well shaped double-pointed object (Fig. 168:4) has polish over the entire surface. Since the points are thick and blunt, the object would not be of much use as an awl. It would be useful, however, in enlarging already existing holes.

Finally, there is a tool which is shaped like an arrowhead (Fig. 168:6, Pl. 76:13). The edges are thin but not sharp. The tang seems incomplete because of its jagged end, but the edges were left rough and are not polished. The object seems too delicate (t. 2 mm.) for an arrowhead. The tang may, however, have been used to secure it to a handle. The fact that both surfaces are well polished whereas the edges of the tang are rough would seem to indicate that the object originally formed the pointed end of a bladelike tool (cf. Fig. 168:3).

NONARTIFACTUAL MATERIALS

MOLLUSCA

Psilunio littoralis homsensis LEA, a fluviatile form (from Kurdu trench I, 2.5–3 m.).

VERTEBRATA

Wild: deer.

Domestic: dog; pig; goat; ox (horn cores suggest brachycerous type).

VIII

PHASE F

INTRODUCTION

PHASE F materials occurred in Judaidah JK 3 in the First Mixed Range, above which lay a fairly clear Phase F deposit *ca.* 1.0 m. deep in an area of 121.2 sq. m. The layer of debris above floor 22 and floor 21 with its debris are involved (see Fig. 7). The material is fairly consistent; the stratigraphy was regular and contained domestic architecture. As explained above (pp. 100 ff.), we consider the architecture of floor 22 as belonging to Phase F, notwithstanding the fact that the material reclaimed from this floor is treated under the First Mixed Range because the sherd sorting was seriously contaminated with earlier wares.

Phase F is also represented by the lowermost materials obtained on Chatal Hüyük in the narrow base cut in W 16, at the very edge of the mound (see p. 5 and Pl. 2 *B–C*). They lay directly above virgin soil, but earlier material may be present in the core of the mound. The W 16 base cut exposed 17.5 sq. m. to a depth of *ca.* 2.0 m., and floors 6–9 and below yielded the Phase F materials (see p. 228, n. 2).

Phase F potsherds also occurred in the inconsistent sortings from the Dhahab trenches (see pp. 14 f.).

As it is known, and without evidence of the nature of its impact on Phase E (see p. 175), Phase F is defined in ceramic and lithic terms. Both industries are new; as we know it now, the assemblage shows little trace of traditions persisting from Phase E. The end of Phase F comes with the appearance of several new ceramic products characteristic of Phase G, but there does seem to be a transition into G and some ceramic continuation.

ARCHITECTURE

The architectural remains encountered on Judaidah indicate fairly large-roomed rectangular structures undoubtedly of domestic type. Formed brick (*libn*) was recognizably present for the first time in the JK 3 area.

Libn walls appeared as part of the floor 22 complex. These consisted of two sides of a well built rectangular structure, which was not oriented to the cardinal points (Fig. 169 and Pl. 7 *C*). The roughly north-south wall seemed to terminate in a sort of jamb, with an opening of almost 2.0 m. between itself and a thick wall at the east, which was not entirely exposed. The opening seemed to be blocked by a stone foundation slightly above the level of floor 22. The *libn* walls were self-founded, but there was a narrow oblique line of stone foundation in the northeast corner of the exposure. The floor itself was a darkened layer of debris, packed only by the normal pressure of usage. A trace of a very shallow circular pit at the southern face of the exposure was the only auxiliary feature observed.

Three short lines of stones and a trace of packed marlaceous flooring appeared slightly above floor 22 (see Figs. 169–70 and Pl. 7 *C*). A line of stones at the northwest would have rested against the outer face of the *libn* wall at this point and may have been used as orthostats to protect its base, if it may be assumed that the fragment of marlaceous flooring and a rough fired-clay area were parts of an exterior fireplace. One of two lines of stones in the southeast seemed to block the opening mentioned above, and the other approximately continued the north-south *libn* wall.

Floor 21 yielded a complex of rather carelessly aligned stone foundations, some of which may have supported quite thick walls (Fig. 170 and Pl. 7 *D*). The plan itself was not very clear; presumably a thick east-west foundation across the center of the exposure and one along the west side of the cut referred to one large and not quite rectangular room. A short curtain wall adjoining the east-west wall and running parallel to the wall at the west seemed to form a sort of vestibule. Probably the north-south run of stones in the northeast part of the exposure pertained to the same room, or to a curtain wall within it, and more subdivision was indicated by a short east-west run which extended beyond the cut in the northeast corner.[1]

Some form of small-roomed structure was indicated by the foundations at the southern edge of the cut.

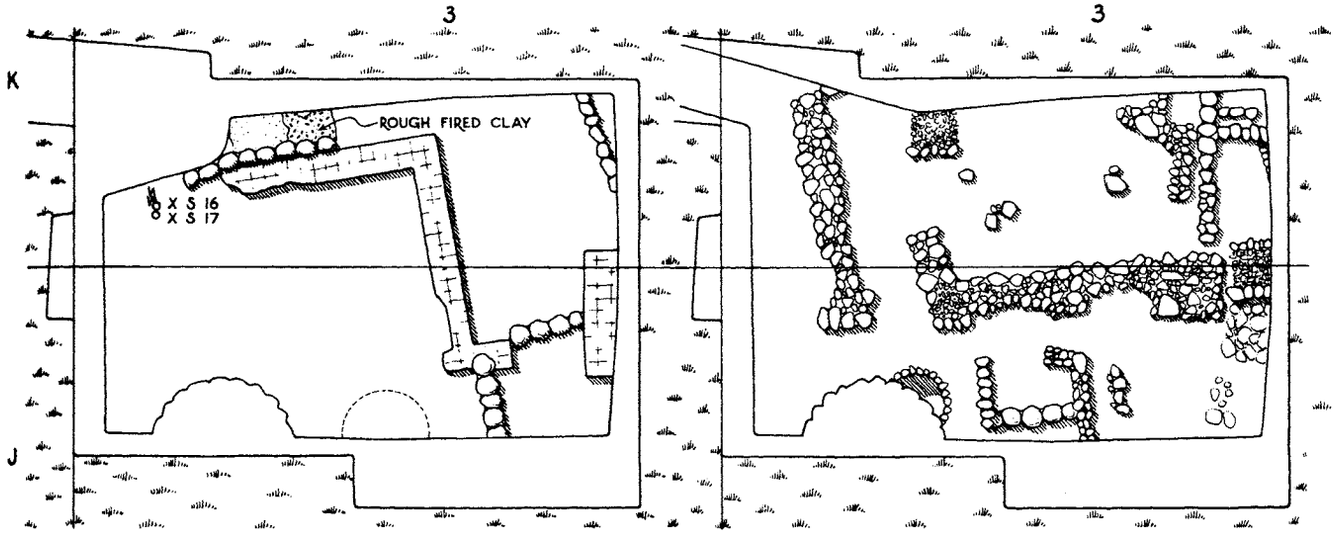

FIG. 169.—PHASE F(?). PLAN OF JUDAIDAH JK 3:22. SCALE, 1:200.

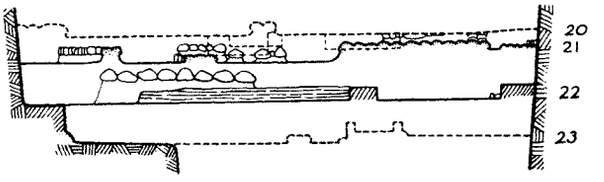

FIG. 170.—PHASE F. PLAN OF JUDAIDAH JK 3:21 AND SECTION OF JK 3:22–21. SCALE, 1:200.

Extending beyond the northern face of the cut, and probably still within the room, was a small section of pebble flooring flanked on its southern edge by larger stones. A similar feature, extending beyond the east face of the cut, was present at the east end of the central stone foundation. In the plan (Fig. 170) it appears almost as a continuation of the foundation, but we observed that, though the heavy stones on the southern flank of the feature may have been wall foundation, the concentration of small stones in the center and the larger stones flanking these to the north were worn by use (see n. 1). The stones to the west of the north-south wall in the northeast corner were rather flat and somewhat smoothed and seemed to be stone flooring surrounding a rectangular feature of perishable material, perhaps a bin. The stones along the east face of the cut, in the southern half, were also evidently remains of flooring. Isolated slablike bits of stone appeared at the floor level in the center of the large room.

[1] See below, however, with reference to the probable stone flooring which extended beyond the east face of the cut. It appeared from the situation at this point that the structure of two or more rooms which was only partially exposed in the northeastern portion of the cut might have been built before the building to which the thick and carelessly laid foundations pertained. The latter may have been put down subsequently as an addition to the original building.

The largest of these stones, southwest of the possible bin and its flooring, was a smoothed slab of low metamorphic schist.

A small circular pit at the south was in part destroyed when a well was put down from floor 13 (see p. 262). The pit was dug well below floor 21, but a ring of stones about its opening was flush with the floor. These of course may have founded a mud wall of which no traces remained.

Several concentrations of stones did not seem to be in their original context. One of these groups lay along the southern flank near the east end of the central foundation and included a crude boulder mortar (see Pl. 7 *D*).

The Phase F exposure in Chatal Hüyük W 16 (see Pl. 2 *B*) was worked without respect to architecture. *Libn* walls were not encountered save at floor 6.[2] Below this, the cut intercepted only darkened floor lines with occasional concentrations of charcoal where fires had been built.

Tell Dhahab is not useful in an architectural sense under present circumstances (see p. 15).

POTTERY

The field sortings of potsherds form the most substantial element for assessing the position of Phase F materials in the ᶜAmuq scheme. As implied above (p. 226), the stratigraphic position of Phase F is fixed only in the sense of the *terminus ad quem* given by the Phase G material above it in JK 3 on Judaidah. Below Phase F in JK 3 lay the First Mixed Range, into which Phase F sherds intruded (see p. 100). On Chatal Hüyük there was nonconformity above the Phase F material and virgin soil below it. The Dhahab occurrence of Phase F pottery was unstratified.

The field sortings were treated as follows. The material from the small but undisturbed area on Chatal Hüyük was studied first, as a means of control. Next, a typically pure early Phase G sorting from JK 3, that of floor 19, was observed as a check against possible Phase G extrusion in the rather thin Phase F occurrence on Judaidah.[3] At this point, with the earlier

TABLE III

SUMMARY OF SHERD SORTINGS FROM PHASE F RANGE IN JUDAIDAH JK 3

	Total Sherd Bulk	Pre-Phase F Types	Phase F Types							Phase G Types
			Smooth-faced Simple Ware	Chaff-faced Simple Ware	Chaff-faced Red-slipped Ware	Red Double-slipped Ware	Painted Wares	Well Made Cooking-Pot Ware	Coarse Cooking-Pot Ware	
Floor 22 debris...	439	29–33%	14–19%	20–25%	9–14%	0–5%	6–11%	4–9%	0–4%	0–1%
Floor 21*.....	444	19–24%	11–16%	16–21%	10–15%	1–6%	5–10%	3–8%	0–5%	13–18%

* The architectural layer representing floor 21 was so thin, relatively, that no distinction between floor and debris was made.

(Phases A–E) materials already classified and with observations on small but pure Phase F sortings and a typical early Phase G sorting at hand, the JK 3 material from the floor 22 debris and from floor 21 and its debris was studied. The results are given in Table III.

It cannot be maintained that the Phase F sortings from JK 3 are as pure as might be desired. The classification of pottery given below must thus be considered, to a certain extent,

[2] Floor 6 did not yield a clear Phase F sherd sorting; presumably it refers to Phase F, but it was somewhat contaminated by the overlying Phase H occupation.

[3] Actually there was a certain amount of contamination in the range of JK 3 which we have classified architecturally as Phase F, i.e., floors 22–21 and the debris above each.

a typological construct. Little if any of the Smooth-faced Simple Ware appeared in the restricted Chatal Hüyük exposure (see n. 6), for example. Hence the attribution of sherds of this ware to Phase F depends on the following factors:

1. Their apparent strength in the Phase F range in JK 3.
2. Their detailed resemblances to the Chaff-faced Simple Ware of the same JK 3 range and of the Chatal Hüyük Phase F range.
3. The absence of such sherds in all other pure contexts and the fact that stratigraphically they must be pre-Phase G on the basis of the JK 3 evidence.
4. Their paste, which, though finely washed, is the same *serpentine* type as that found by Matson to be most characteristic of the Chaff-faced Simple Ware (see p. 233).

It will become apparent that certain other small groups are attributed to Phase F on similar grounds.[4]

Since the situation must remain as it is until further excavation, we cannot assess the internal consistency of the Phase F ceramic on purely objective grounds. The small bulk of sherds available from Chatal Hüyük W 16 appears to be consistent. Moreover, the total ceramic selection as classified below appears to be consistent, but, since this classification depends partially on typology, there is the possibility of redundancy.

It may be noted that two new ceramic developments aid in the recognition of Phase F pottery. At least some of it was wheelmade, and relatively elaborate attention was sometimes given to the molding of lips and rims.

The following criteria may be assumed[5] to be typical of Phase F as our exposures show it:

1. Appearance of a smooth-faced fine-grained series with characteristic profiles and usually burnished. This series includes small groups with red-orange slip, with painted decoration, and with reserved spiral decoration.
2. Appearance of a chaff-faced series, rather rarely burnished, which includes small groups with plain red-orange slip, with red slip and burnish, with red-orange slip on the rims, and with red-orange slip used as paint for linear motifs.
3. Appearance of larger jars characterized by a double-slipped surface.
4. Appearance of two cooking-pot groups, a reasonably fine-grained and a coarse dark ware.

The following description is based on the total available bulk of 1,451[6] Phase F sherds from Judaidah JK 3, Chatal Hüyük W16, and Dhahab: 921 sherds from Judaidah JK 3:23 fl.–21 (see p. 100), classified mainly on typological grounds; 271 sherds from Chatal Hüyük W 16: 6–9 and below (see p. 228, n. 2); 259 sherds from Dhahab, classified typologically. There are also eleven reconstructible pots, eight from Judaidah and three from Chatal Hüyük.

Smooth-faced Simple Ware
(17–22% of total selected sherd bulk)

It is very likely that some form of fixed-axis turning device was used in the preparation of at least some of the bowls and beakers in this group. While it would be safest to refer to the group generally as handmade, there are regular horizontal striations on the inner surfaces of

[4] There is some comparative evidence for Phase F types of ceramic from other Syrian sites.

[5] Assumed rather than demonstrated because of the qualifications stated above.

[6] The expressions of the proportions of the various wares are based on this grand total, for changes in proportions from floor to floor and from site to site were insignificant. There are only two qualifications, which might become apparent in a large pure sampling. The expressed proportion of Smooth-faced Simple Ware may be too low, for only one or two of the sherds from the small Chatal Hüyük operation are perhaps of this ware. The rest of the wares in the small Chatal Hüyük sortings conform in appearance and proportion to the assumed normal of Phase F. Secondly, the expressed proportions of the painted wares may, as usual, be somewhat high. Two factors are involved: (1) the tendency to select body sherds of painted wares in the original field sampling, whereas the selection of simple wares was restricted mainly to sherds showing rims, bases, and secondary features; (2) the fact that only rim sherds with the most characteristic types of modeling were selected for the chaff-faced wares from the Dhahab lot to avoid confusion with the coarse wares of Phases A–B types.

some body sherds from more vertical-sided vessels. Because of the higher proportion of burnished surfaces in this ware, signs of throwing are not so discernible as in a few of the Chaff-faced Simple Ware sherds.

The sherds indicate a medium to fairly well fired product, usually with completely oxidized core. Paste color is normally light orange-buff, varying from very light creamy or greenish buff to full orange-buff or dark buff. Sizable mineral inclusions are sparse in concentration and white, red, or occasionally dark in color. Small amounts of fine chaff are occasionally indicated by pits within the core, and shell appears very rarely. Over 75% of the observable inclusions are fine; a few are of medium size, while coarse inclusions are so rare as to indicate that their presence is accidental. The fabric seems fairly hard and dense; the fracture is straight and quite smooth. Though the surface is naturally less fresh-looking than a new fracture, it corresponds to the paste in color, being normally light orange-buff or creamy buff (see Pl. 84:2). The surface tends to be exceptionally smooth and even, though not very lustrous even when burnished; it is wet-smoothed, and there is a self-slip in some cases (see Pl. 24:1, 3–7). Slightly over 50% of the sampling is burnished, especially the bowl and beaker sherds. A small proportion of sherds (usually of jars or beakers) show open vertical burnish strokes, which may scarcely be called pattern burnish. Even the most careful burnish is not completely closed; bowls tend to be chordally burnished inside, and the surfaces are quite smooth even without burnish. A little abrasion is apparent on some sherds.

Two wares can be distinguished in this group. One, constituting 20% of the sherds from Judaidah, is very fine-textured, granular in appearance, and of the *serpentine* type clay. These sherds contain fine chaff, 3 mm. long, and have smooth surfaces that reflect light slightly. They belong with the Chaff-faced Simple Ware in physical characteristics, but because of the shapes which they represent they are classed with the Smooth-faced Simple Ware by Braidwood.

The major group of sherds is very fine-textured, brittle, thin (4–7 mm. thick), and well fired. There are occasional chaff impressions on the surfaces. A color sorting of the sherds made to get an indication of firing temperatures showed that the ware is very similar to the Phase E ʿUbaid-like Monochrome Painted Ware in this respect (see p. 183). The paste consists of an extremely fine-textured variant of the *serpentine* type clay, with sericite as a prominent mineral impurity. This suggests that the pottery was made from a somewhat different clay bed. The same paste was used in some of the Brittle Painted Ware of Phase B (see p. 80). The incipient use of the wheel, pointed out by Braidwood, distinguishes this group. Scraping marks on the outer surfaces indicate that the vessels were pared down to their unusually thin walls when the drying clay was in leather-hard condition. These sherds form a distinctive group that indicates marked advances in ceramic techniques.—MATSON.

With few exceptions (see Fig. 171:28–29, Pl. 24:7) the sherds indicate rather small vessels. Bowl forms are proportionately numerous and generally characteristic. Fairly large but low semispherical bowls normally have either a slightly expanded or a markedly thinned lip (Fig. 171:1–2). Variants include lips so markedly thinned as to suggest a shoulder, splayed lips, outrolled and inrolled lips (Fig. 171:3–8). There is a small proportion of somewhat higher cup-sized bowls which approach a carinated type (Fig. 171:9–11). Small low straight-sided bowls (Figs. 171:12–14 and 172:1, Pls. 24:1, 4 and 84:2) are among the most characteristic. The vertical body wall may be wheeled, this being usually difficult to determine because these bowls are normally burnished. A rather sharp change in plane is characteristic, and also a slight split or channeling in the lip. There are some taller and less carinated examples (Fig. 171:15–18, Pl. 24:3). The little straight-sided bowls are represented by *ca.* 35% of the Smooth-faced Simple Ware sherds. Simple deep bowls (Fig. 171:19–20) are rarer.

There is some variety of small jars, usually with rather narrow orifice. High-collared examples (Figs. 171:23–25 and 172:2, Pl. 26:8) are more common than low-collared examples

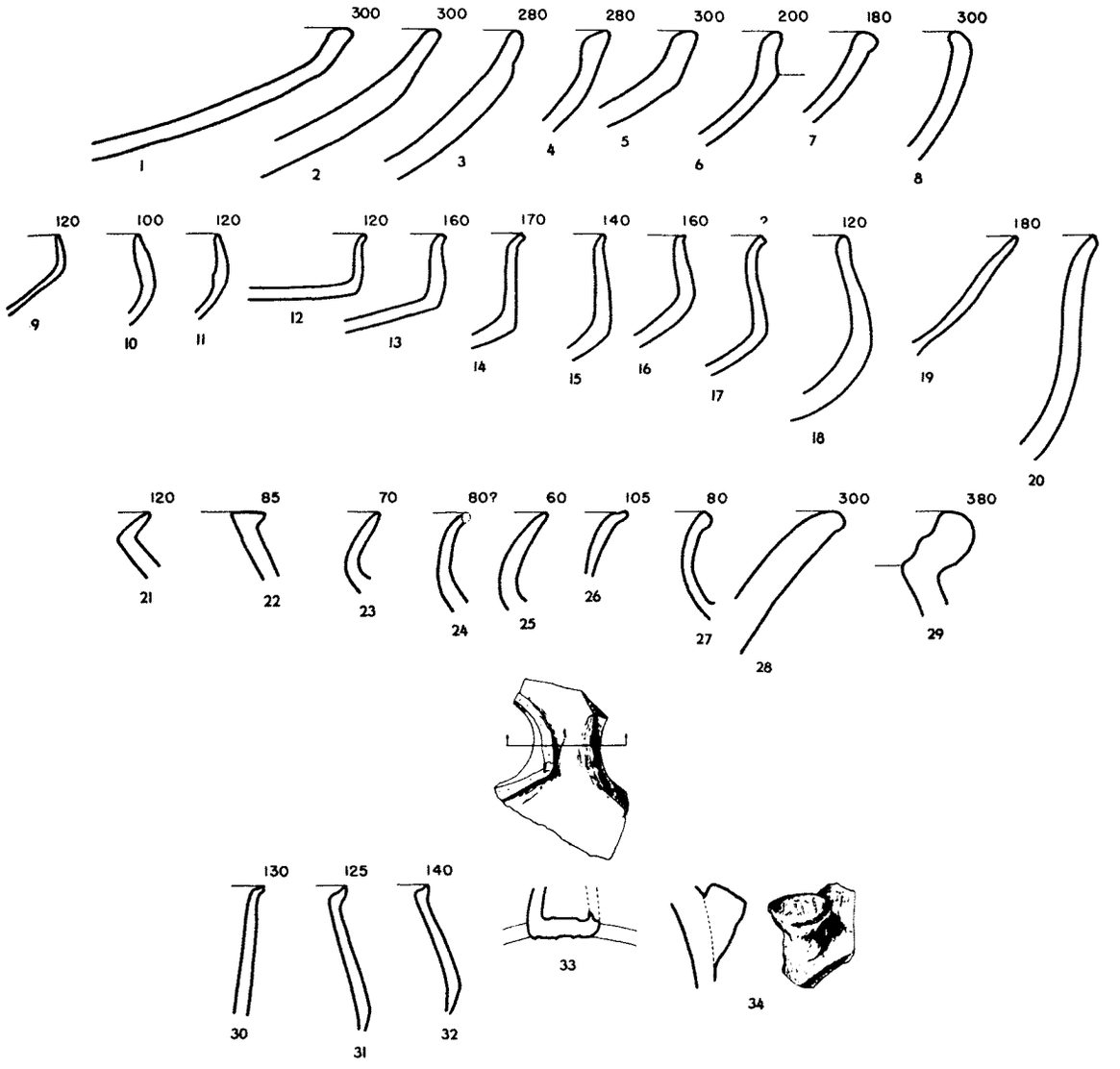

FIG. 171.—PHASE F. SMOOTH-FACED SIMPLE WARE. SCALE, 1:3

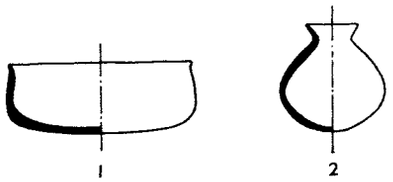

FIG. 172.—PHASE F. SMOOTH-FACED SIMPLE WARE. SCALE, 1:5

(Fig. 171:21–22). The lips sometimes receive special attention (Fig. 171:22, 26–27). A few fragments representing a profile typical of the Chaff-faced Simple Ware appeared (Fig. 171: 29, Pl. 24:7; cf. Fig. 176:10–15). A thick flaring sherd (Fig. 171:28) may be part of either a collar or a pedestal base. One sherd indicates a jar with double orifice (Fig. 171:33).

Beakers with molded lips also are characteristic (Fig. 171:30–32). In these the intent to split or channel the lip is clearer than it is in the little straight-sided bowls (cf. Fig. 171:12–14).

Bases are mostly round or round flattened (see Fig. 172). There is an applied studlike piece

of clay on a sherd (Fig. 171:34) whose megascopic appearance suggests that it is actually out of place with this group.[7]

Smooth-faced Red-slipped Ware
(0–1% of total selected sherd bulk)

This small group conforms in every way to the Smooth-faced Simple Ware save for the addition of a thin red-orange (ocherous?) surface film, which was applied before burnishing (when burnishing was done). The profiles (Fig. 173:1–5) generally correspond to those of the Smooth-faced Simple Ware save that a proper hole-mouth sherd (No. 2) appeared. There are no examples of the little straight-sided bowls with a clear case of red surface film, but this is probably accidental. Five sherds of this ware (Fig 173:7–11) appeared in JK 3:20 (Phase G; see p. 264).

Smooth-faced Painted Ware

There is only one sherd to indicate this group; fortunately it is a normal example of a little straight-sided bowl (Fig. 173:6). The paint, applied as a zone of vertical waves on the shoulder, is a rather thick black solution, which has peeled off in places.

Smooth-faced Ware with Reserved Spiral Decoration
(0–4% of total selected sherd bulk)

This type of decoration, as indicated by the field sortings, was applied only to semispherical bowls whose profile is typical of the Smooth-faced Simple Ware (cf. Fig. 171:1–2). The applied color film involved is no doubt ocherous; the color is normally full red-orange (see Pl. 84:4) but varies from light red-orange to greenish black depending on the firing. The appearance of the sherds (Fig. 173:12–15, Pls. 23:8, 12 and 84:4) indicates the following procedure. The film was first applied all over the inner surface of the bowl. The bowl was next returned to some form of fixed-axis turning device, and the surface was wiped with a finger (or a rag or a piece of fur?) to form the pattern. The potter must have moved his finger slowly in an exactly radial sense while the pot turned, for the result indicates an almost perfect spiral.[8] Thus this group not only indicates a characteristic type of decoration but also strengthens the case for use of the wheel[9] in Phase F.

Chaff-faced Simple Ware
(32–37% of total selected sherd bulk)

Chaff-faced pottery is the preponderant ceramic of Phase F; this group and the slipped and slipped-and-burnished groups make up approximately half of all the pottery classified under this phase. The following description covers all three groups.

The sherds indicate mainly handmade vessels, although a few broad collared rims show traces of the wheel. The firing must have been light and fast, for the sherds are characteristically incompletely oxidized, with *ca.* 75% of the area of the core remaining black. The oxidized paste is normally full orange-buff but varies from light to brownish orange-buff. It is normal for an oxidized layer of orange-buff to appear on both the inner and the outer surface, and the transition from the oxidized to the unoxidized color is generally quite sharp (see Pl. 84:6).

[7] The clay may be of Phase G Plain Simple Ware type, but the studlike device is not known in the Phase G sortings. The sherd in point is from JK 3:23 (First Mixed Range).

[8] See the two sherds (of different bowls of the same type) drawn together in Fig. 173:14–15.

[9] We are not prepared to enter into the controversy of "tournettes," "slow wheels," "fast wheels," etc., being of the opinion that a great deal of wordage has been wasted on criteria which are at best subjective. The one possible distinction would seem to be between "handmade" and "wheelmade" pottery, with "wheelmade" pottery being any product of a device rotating about a fixed axis.

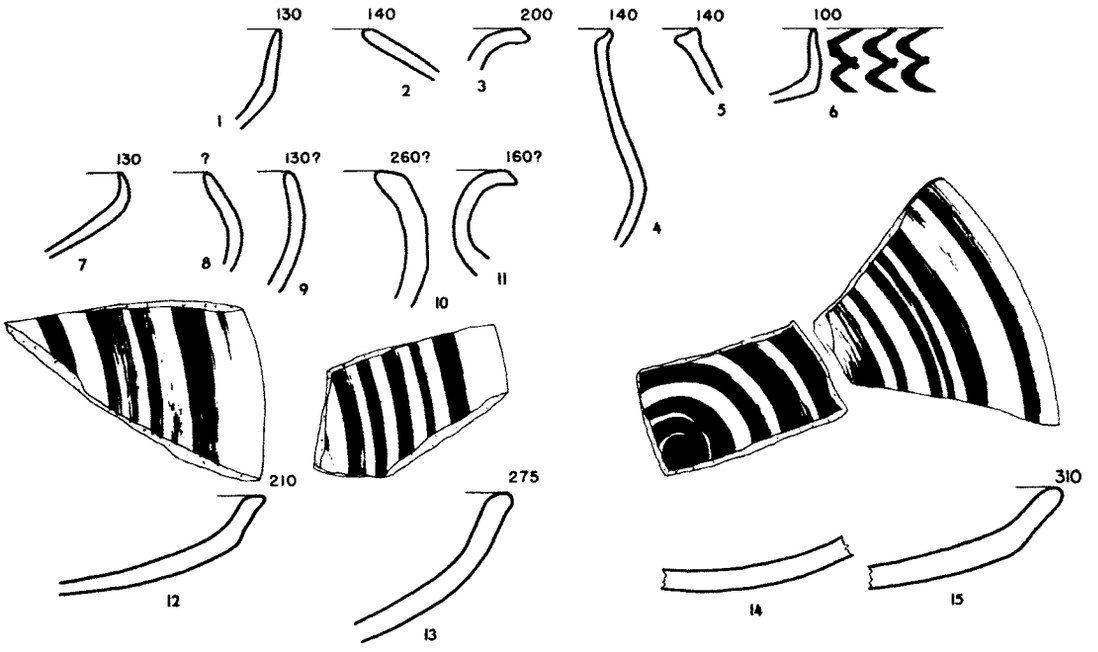

FIG. 173.—PHASE F. SMOOTH-FACED WARES: RED-SLIPPED (*1–5*), PAINTED (*6*), AND WITH RESERVED SPIRAL DECORATION (*12–14*). SCALE, 1:3. NOS. *7–11* ARE RED-SLIPPED SHERDS FROM THE EARLIEST PHASE G FLOOR.

The varicolored (red, white, black, gray) mineral inclusions are in sparse concentration; they are fine in over 60% of the sherds, with an approximately even distribution of medium, coarse, and very coarse inclusions in the remainder. A heavier concentration of chaff temper is characteristic. A few cases show shell inclusions. The fabric tends to have a dense and granular appearance; the fracture is rather straight and smooth. The surface coloration is less intense than that of the oxidized paste, dull orange-buff being normal. The surface texture would be quite smooth save for the characteristic pits which result from the burning-out of the chaff temper (see Pls. 24:2, 8–12, 14 and 84:1, 6). There are some cases of self-slip in the simple group, but the main bulk is wet-smoothed. About 10% of the simple sherds, mainly of bowls and beakers, show traces of burnishing, which is careless and open. A fair number of the sherds are quite soft, and a certain amount of abrasion of lips and fractured edges occurs.

Technically the Chaff-faced Simple Ware is a direct continuation of the Phase B Coarse Simple Ware (see p. 70) and has about the same degree of oxidation. Straw tempering is replaced by thinner plant material that has left impressions 10 mm. long in the clay. The *serpentine* type clay is used in 70% of the group, and the amount of plant tempering varies with wall thickness. A few sherds (12%) are thickly tempered with shell and granular calcite and are poorly finished, much like some of the Phase A Coarse Simple Ware (see p. 48). The remaining 18% are of the very fine-textured brittle type described for Phase B except that the tempering material consists of small thin fibers only 3 mm. long. The sherds, especially those of the *serpentine* type clay, often have a velvety black core. Two red-burning sherds that contain much fine quartz are in this group although they are typical of the Red Double-slipped Ware of Phase F (see p. 241).—MATSON.

The simple sherds indicate mainly bowls and rather large collared jars.

There is a minor series of plain hemispherical bowls (Fig. 174:1–3), but the more characteristic bowl sherds show a tendency toward turned-in (Fig. 174:4–7, No. 7 being rather extreme) or molded lips. Outrolled rims (Fig. 174:9–12) are fairly common on large semispherical bowls and in some cases are quite bold (Nos. 11–12). There is also a class of medium-sized bowls with inner-ledge rims (Fig. 174:13–14, Pl. 24:8), which seems customarily to have

some burnish. Bowls of an ill-defined class have fairly high sides and thinned or grooved lips (Fig. 174:15–16). The last type among the more open bowls is the well known beveled-rim class (Figs. 174:17 and 175:1, Pls. 24:2, 10 and 84:1), with straight flaring side and plain flattened base. It is characterized by an almost purposeful roughness of surface and a very slightly flared concave lip. The lip looks as though the potter had passed the ball of a forefinger around a plain squared lip with sufficient pressure to spread the clay slightly and to leave the shallow concave surface which shows so characteristically in section.[10]

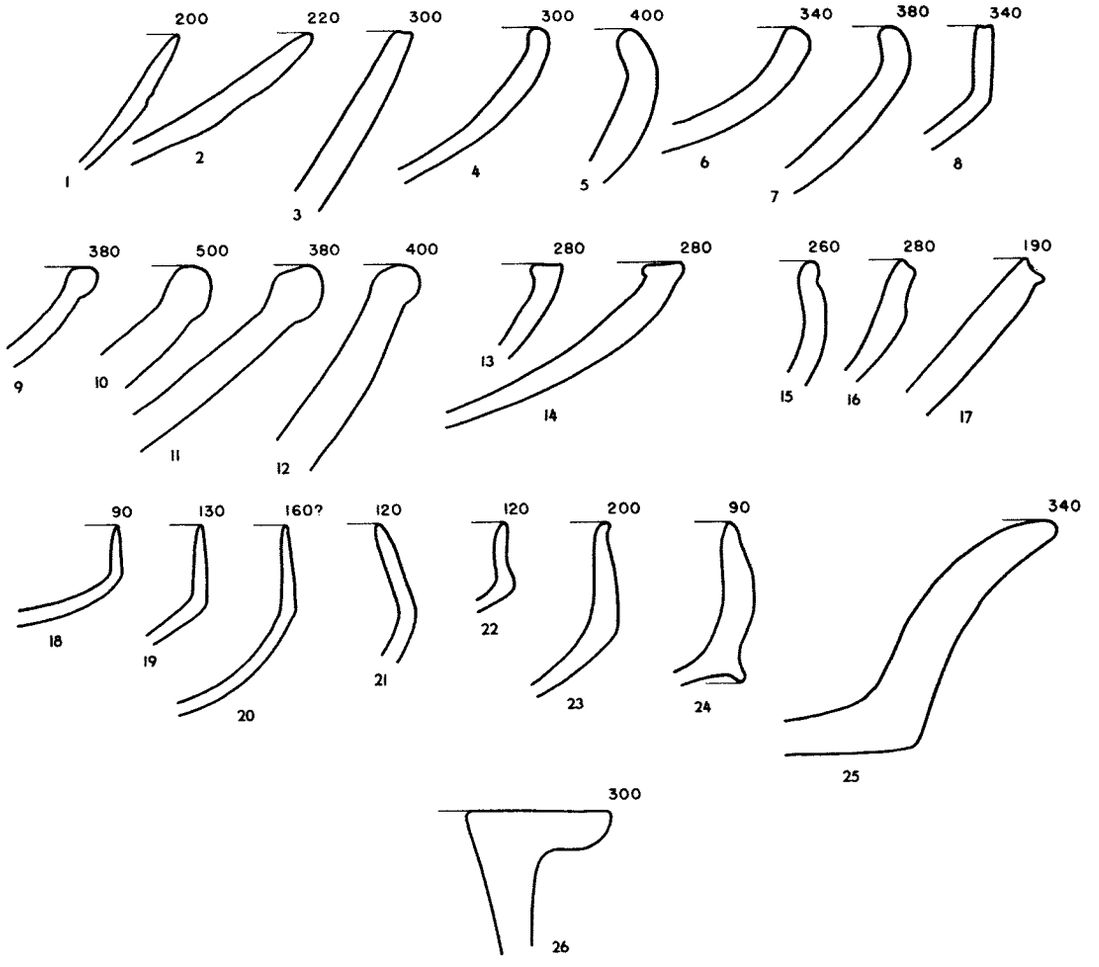

FIG. 174.—PHASE F. CHAFF-FACED SIMPLE WARE. SCALE, 1:3

Cuplike bowls of small to medium size, with fairly well marked change of plane (Fig. 174: 18–23), are well represented; Nos. 22–23 are variants of the normal profile. The normal profile in somewhat larger size occurs in Phase E (cf. Fig. 143:2). In its Phase F context, it probably is a coarser counterpart of the well made little straight-sided bowls of Smooth-faced Simple

[10] There are two complete pots (e.g. Fig. 175:1, Pl. 24:2) and several sherds of this class from the uppermost floor (6) of the Phase F range in Chatal Hüyük W 16. The only Judaidah example is a typical rim sherd from JK 3:20 fl., which marks the beginning of Phase G (see p. 259); the actual sherd counts from JK 3:20 showed a mixture, however, with Phase G type wares amounting to 65–70%, Phase F type wares 17–23%, and earlier wares (A–E) 11–16% (see p. 264). Since there is apparently carry-over of some profiles and of the cooking-pot wares from Phase F into the standard Phase G ceramic assemblage, the Phase F type wares in the sorting of JK 3:20 fl. were probably in context rather than extrusive. Thus, on the basis of the few available sherds, beveled-rim bowls would seem to belong to the end of Phase F and the very beginning of Phase G.

Ware (cf. Fig. 171:12–14), although it actually has almost exact counterparts in the smooth-faced ware (cf. Fig. 171:9–11) which are somewhat less characteristic of that ware than the straight-sided bowls.

A small coarse cup with incipient ring base (Fig. 174:24), a large flared basin-like bowl (Fig. 174:25), and a tub with very broad outer-ledge rim (Fig. 174:26) are each represented by a single sherd.[11]

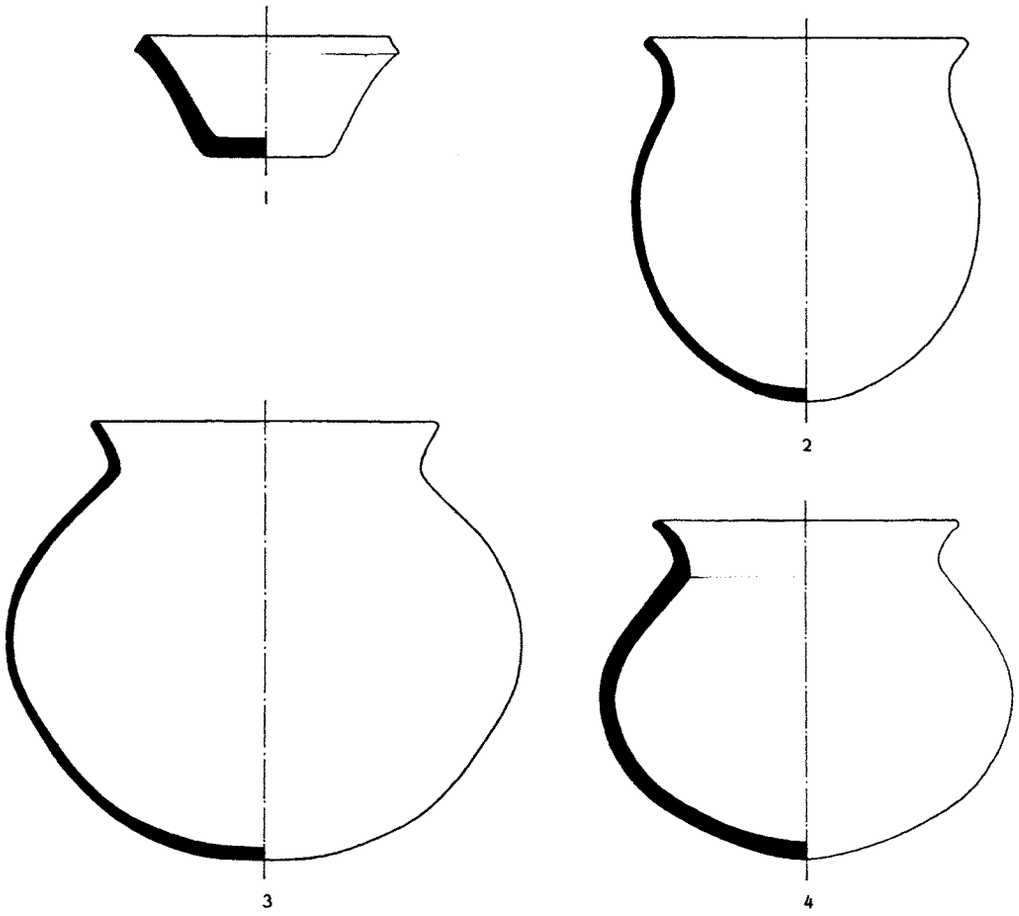

FIG. 175.—PHASE F. CHAFF-FACED SIMPLE WARE (*1*) AND COOKING POTS (*2–4*). SCALE, 1:5

Simple hole-mouth jars (Fig. 176:1–4) are present but evidently not common in Phase F; Nos. 1–2 are normal examples, Nos. 3–4 variants. The hole in No. 4 was made to receive a plugged-in handle.

The jars are preponderantly collared. It is quite possible that some of the lower collars were produced merely by a working of the upper body wall outward into a flare, but most of the rims seem to imply added collars. Plain rims occur (Fig. 176:5–9), but modeled or channeled rims are even more characteristic (Fig. 176:10–15, Pl. 24:11–12, 14). The latter are particularly indicative of the Phase F tendency to groove or channel rims (see p. 229, also Fig. 171:29); one example (Fig. 176:14) is somewhat exaggerated but illustrates the tendency clearly. One

[11] Nos. 25–26 are in a very coarse clay which could be megascopically classified with either Phases A–B Coarse Simple Ware or Phase F Chaff-faced Simple Ware. The broad-ledge type of rim has been noted once before (Fig. 40:26), from JK 3:25 (Phase B). No. 26 is from JK 3:23 (First Mixed Range), which immediately overlies Phase B. It is classified here tentatively because its megascopic appearance is most strongly suggestive of the Chaff-faced Simple Ware.

rim sherd shows that such jars sometimes have impressed decoration on the shoulder (Fig. 176:16, Pl. 84:6). There is a series of large jars with relatively smaller orifice. The collars, though flared, tend to be somewhat more vertical (Fig. 176:17–24). Moreover, attention to the inner surface of the collar is lacking, there being rather a tendency to roll out the lip.[12] Modeled outer lips (e.g. No. 21) are less common in this ware than in the Well Made Cooking-Pot Ware (see Fig. 182:4–6). A few of the less usual profiles are illustrated (Fig. 176:25–28).

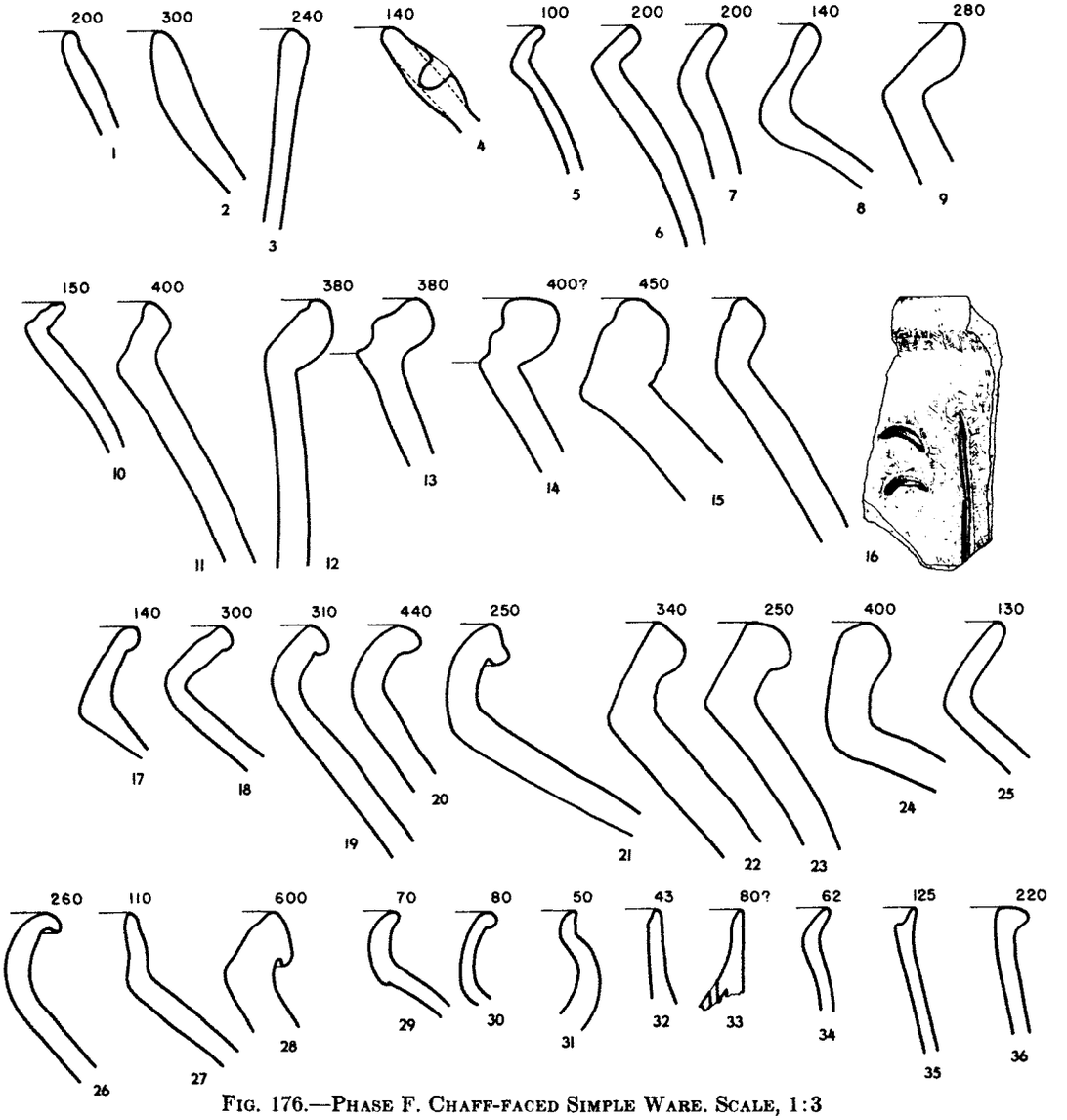

FIG. 176.—PHASE F. CHAFF-FACED SIMPLE WARE. SCALE, 1:3

A few bottle rims, evidently from small vessels, appeared (Fig. 176:29–31). A sherd of a plain vertical rim of small diameter (Fig. 176:32) is too fragmentary to allow certainty as to whether it is part of a neck or a spout. A small-diametered jar neck with inner strainer attachment appeared (Fig. 176:33) as well as perforated sherds which probably refer to strainer attachments (Fig. 177:5). A few sherds indicate gourdlike jars or beakers (Fig. 176:34–35), and one sherd indicates a krater (Fig. 176:36).

[12] Since collars with outrolled lip are found in so many ceramic assemblages, they are not so useful a criterion as those with inner-rim channeling on jars with larger orifice. However, the examples from the Phase F range are in typical Chaff-faced Simple Ware clay, and they mark the first appearance in bulk of this particular rim treatment in the ʿAmuq sequence. Jar collars with outrolled lip are present in Phase E (see e.g. Fig. 145:37) but not in bulk.

Sherds indicating bases and secondary features are relatively rare. Plain flattened bases (Fig. 175:1) and an incipient ring base (Fig. 174:24) have been noted. Well worked bases do appear (Fig. 177:10), but apparently they are not common in normal Phase F wares. Simple flat bases (Fig. 177:9) as well as worked ring bases are accounted for by a few sherds. The available loop-handle fragments indicate round sections (Fig. 177:11–12). A hole for a plugged-in handle has been noted (Fig. 176:4). A single straight-sided flat sherd, of considerable size, might be part of a tile (Fig. 177:1).

A few sherds indicate decoration. The most simple type consists of a slightly depressed band about the base of jar necks, made by merely wiping a finger about the still wet pot (Fig. 177:2–3). More proper decoration is indicated by a combination of sharp pokes done with the

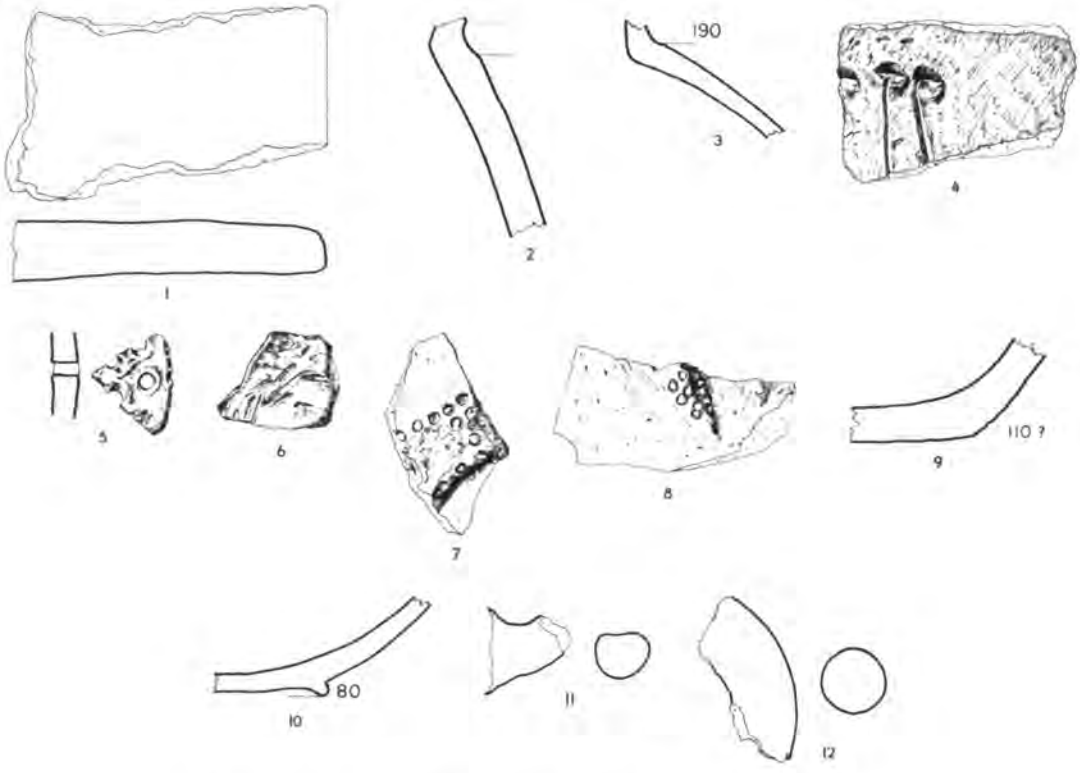

FIG. 177.—PHASE F. CHAFF-FACED SIMPLE WARE. SCALE, 1:3

end of a finger and incising done with a tool (Figs. 176:16, 177:4). Two sherds (evidently from the same pot) show raised plastic decoration embellished with fine circular impressions (Fig. 177:7–8); it is impossible to discern from the fragments what the original device may have been. One sherd was selected to illustrate a "switched" surface treatment which sometimes appears (Fig. 177:6). The striations may look as though they were purposely made by brushing over the wet surface of the clay with a bundle of straw, or the surface may simply show an unordered variety of elongated pits which may have come from resting the wet pot on a pile of straw. The more regular "switched" effect also appears on Figure 178:6, 8, 9.

A small group of sherds indicate normal profiles but are of clays which do not conform with the regular Chaff-faced Simple Ware clay. Some of these clays are very fine-grained but heavily straw-pitted; some have heavy concentrations of large white mineral inclusions or shell; some bear fairly close resemblance to the Well Made Cooking-Pot Ware clay or the Red Double-slipped Ware clay. It seems unlikely that this group represents anything more substantial than accidental use of various clays in place of the normal Chaff-faced Simple Ware

clay. The profiles consist mainly of collared jars (Fig. 178). The best examples of the "switched" surface appears in this group (Fig. 178:6, 8, 9 and Pl. 24:13). There is a handle sherd from JK 3:21 (Fig. 178:10) which was perhaps not even in context in Phase F; its clay is not characteristic of any known ware. A body sherd from JK 3:21 may be conveniently considered here. Its clay has the megascopic appearance of underfired Chaff-faced Simple Ware; it is unique in that a thin olive-buff film was added to the outer surface and then reserved to form a pattern (Pl. 23:3). The general direction of the straw pits on the inner surface might perhaps suggest that the orientation of the reserving was oblique. Except for the reserved pattern, the sherd does not resemble Phase G Reserved-Slip Ware.

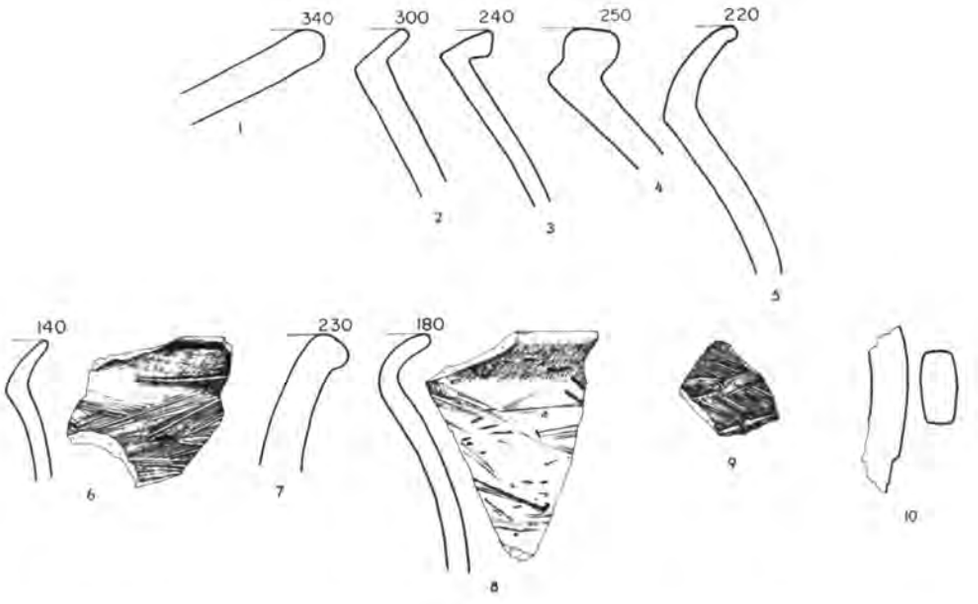

FIG. 178.—PHASE F. SHERDS, OF VARIOUS CLAYS, REPRESENTING PROFILES NORMAL TO CHAFF-FACED SIMPLE WARE. SCALE, 1:3.

CHAFF-FACED RED-SLIPPED WARE
(6–11% of total selected sherd bulk)

In megascopic appearance the clay conforms with that of the Chaff-faced Simple Ware.[13] This group is set apart on the basis of its surface film, an ocherous slip of deep red-orange color. Most typically the slip is quite thick (see Pl. 24:15), although it chips or abrades easily, but on some sherds it seems to be thin.

Bowl sherds indicate the semispherical type with slightly inturned lip (Fig. 179:1; cf. Fig. 174:4–5). One sherd indicates a very deep hole-mouth vessel (Fig. 179:2). Normal collared-jar profiles are most common (Fig. 179:3–5); one example has a markedly outrolled lip (Fig. 179:6), and there are sherds indicating bottles (Fig. 179:7–8). There is also a fragment of a small coarse jar which probably had a flared collar (Fig. 179:9). Simple flat bases (Fig. 179:9) and one high well worked ring base (Fig. 179:10) are indicated.

[13] If there is any distinction at all between this red-slipped group or any of the following chaff-faced groups and the Chaff-faced Simple Ware, it is in the direction of somewhat less chaff tempering and a slightly lower proportion of unoxidized black cores. The sherd bulks available are too small to give objectivity to this statement.

Chaff-faced Red-slipped and Burnished Ware

(5–10% of total selected sherd bulk)

This group is differentiated from the red-slipped group simply in that the ocherous red-orange slip is burnished. It is also noticeable that this class includes a proportionately greater number of bowls and open-jar forms. This is natural, for open vessels are more easily burnished; on some bowl sherds the easily available outer surface is not burnished below the rim. The burnish strokes tend to be rather haphazard and on the inner surfaces of bowls may be chordal, while a few jar sherds show very open vertical or crisscross strokes (see Pls. 24:16–17, 84:3) which are too careless to be described as proper pattern burnish. However, a few sherds (e.g. Fig. 179:13, 20) have almost continuous burnish.

The profiles indicated by the sherds (Fig. 179:11–24) are all normal to the Chaff-faced Simple Ware (cf. Figs. 174, 176). One sherd shows a short slightly channeled splayed rim (Fig 179:20), a feature which has not been noticed otherwise but is consistent with the type of modeling used in Phase F in general.

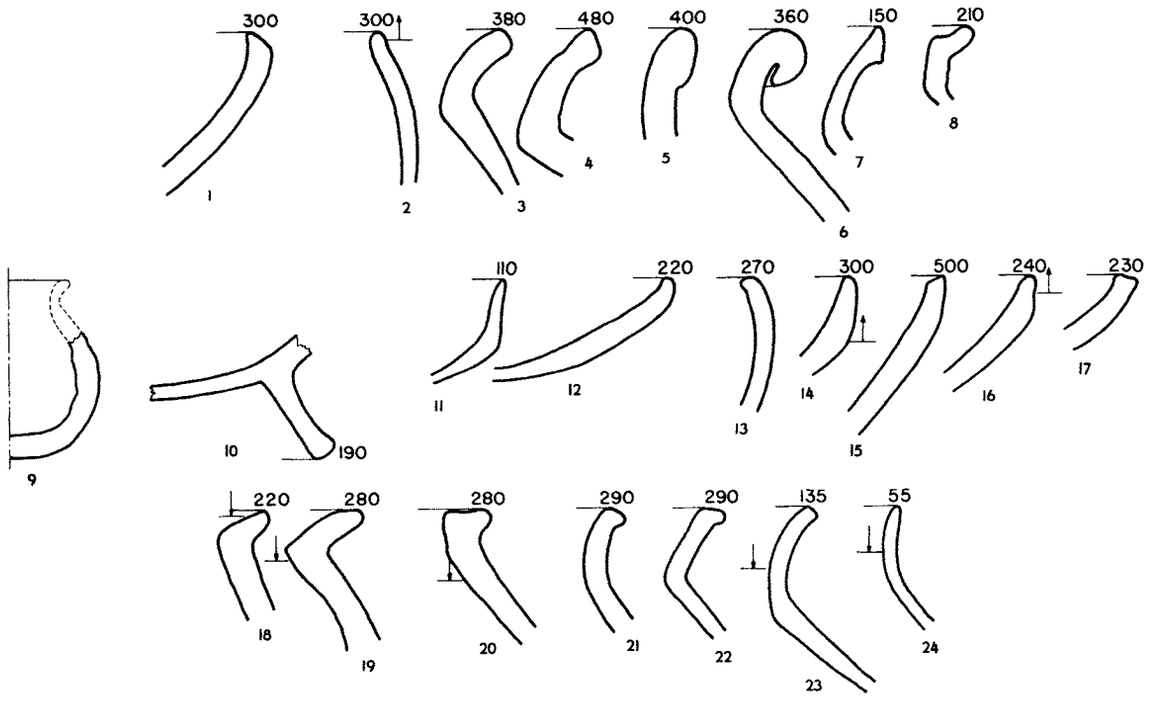

Fig. 179.—Phase F. Chaff-faced Red-slipped (*1–10*) and Red-slipped and Burnished (*11–24*) Wares. Scale, 1:3.

Chaff-faced Ware with Painted Rim Bands

(0–4% of total selected sherd bulk)

This proportionately very small group of sherds is differentiated from the Chaff-faced Simple Ware only by a usually carelessly applied band of paint on the lip (Fig. 180:1–5). The solution is evidently the same as that used for the slip in the other chaff-faced groups; it has the same full red-orange color and is usually fairly thick. Several of the bowl sherds have careless burnish on the inner surface. The only extraordinary profile (Fig. 180:3) is indicated by a rim sherd which, when seen in plan, does not conform to the normal arc of a circle and is slightly splayed on one end as though it had been attached to another surface. It may be a very broad open spout, or it may be part of some sort of double vessel.

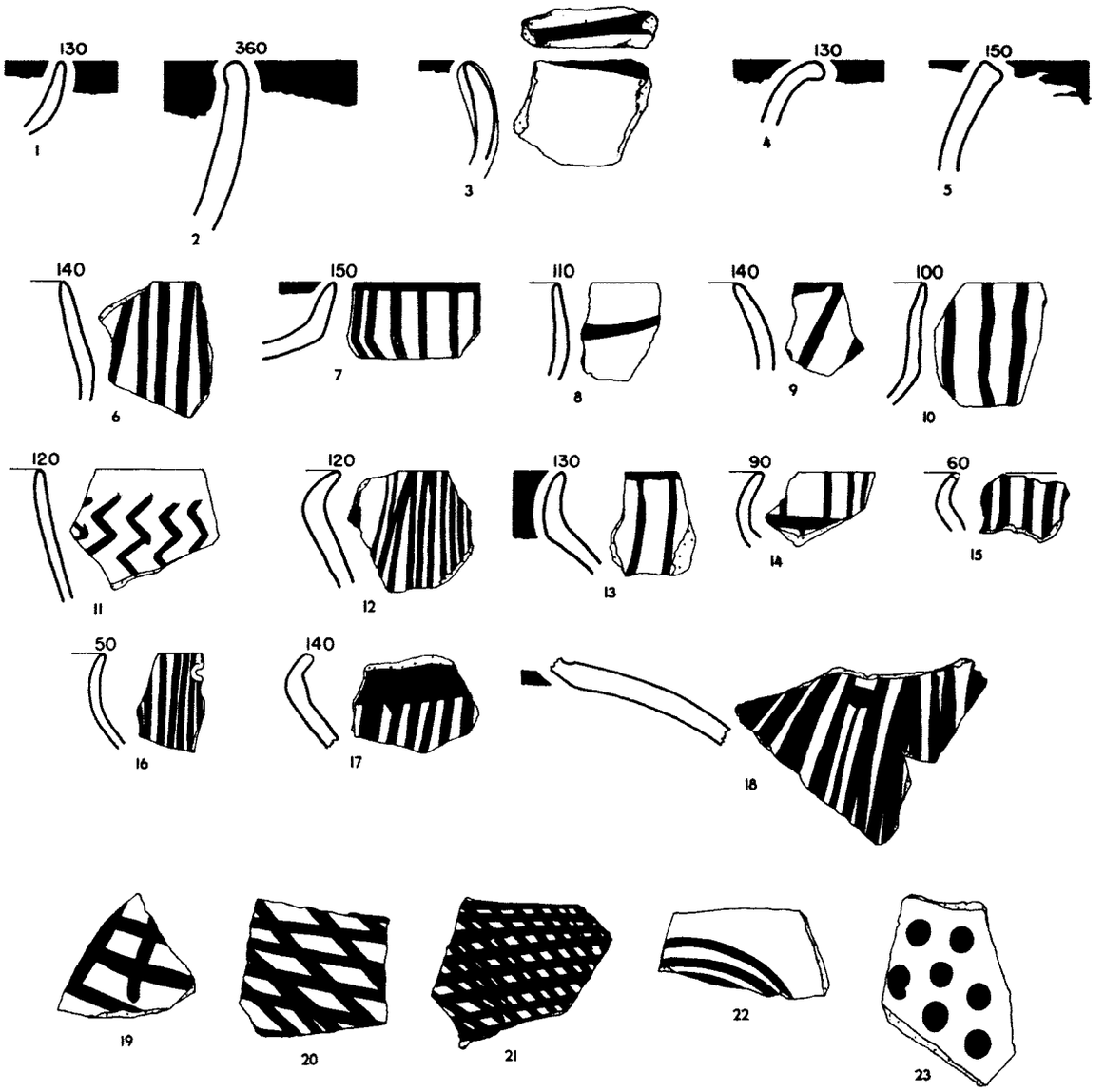

FIG. 180.—PHASE F. CHAFF-FACED WARE WITH PAINTED RIM BANDS (*1–5*) AND CHAFF-FACED PAINTED WARE (*6–23*). SCALE, 1:3.

CHAFF-FACED PAINTED WARE

(10–15% of total selected sherd bulk)

The sherds in this group indicate small to medium-sized vessels of a clay normal to the Chaff-faced Simple Ware and characterized by very simple painted decoration. The ocherous paint is red-orange (see Pl. 84:5), evidently a slightly thinner solution of the material used for the slip in the other chaff-faced wares.

The sherds indicate cuplike bowls (Fig. 180:6–10) with or without carination, one hole-mouth vessel (Fig. 180:11), and a fair variety of collared jars (Fig. 180:12–18) including some which are quite small and show bottle-size rim diameters. No secondary features were noted.

The decoration consists mainly of closely set vertical or slightly oblique lines which proceed from the rim down over the outer surface (Fig. 180:6–7, 10, 12–13, 15–18 and Pl. 23:14–15). In some of these examples a lip band is used, which may go well down within the neck on the inside. Two examples indicate a shoulder band (Fig. 180:14, 17). One bowl sherd shows widely spaced oblique lines extending from a lip band (Fig. 180:9), and the hole-mouth sherd is cov-

ered with vertical zigzag lines (Fig. 180:11). Two sherds indicate the use of curved or swaglike lines (Fig. 180:8, 22), one of these being a body sherd which cannot be oriented with absolute certainty. Other body sherds account for some variety of crosshatching (Fig. 180:19–21, Pl. 23:13); these evidently come from jars which probably had profiles like that indicated for example by Figure 176:18. One rather heavy body sherd shows a simple covering of large widely spaced dots (Fig. 180:23).

These sherds are quite easily distinguishable from those of the painted wares of the earlier phases on the basis of the motifs alone. Their position in Phase F, however, is doubly insured by their characteristic chaff-faced clay and by the appearance of some of them in the small but pure sortings from Chatal Hüyük W 16 (e.g. Fig. 180:6, 7, 12, 13, 18).

Red Double-slipped Ware

(0–5% of total selected sherd bulk)

This proportionately small but characteristic group comes mainly from Judaidah and Dhahab.[14] The sherds indicate only collared-jar profiles in a clay which closely resembles that of the Well Made Cooking-Pot Ware (see below). The vessels were handmade, though the rims may have been turned, and lightly fired, with normally about 60% of the unit area of the core unoxidized. The paste is generally orange-buff and varies from light orange-buff to brownish black. The mineral inclusions are medium to fine sandy particles in heavy concentration and coarse or very coarse pebbles, crystals, and perhaps ocher in sparse concentration. The sparse inclusions are varicolored and probably accidental in the main. There are normally pits from a considerable amount of fine straw, and shell inclusions appear occasionally. The ware is friable and tends toward irregular surfaces which usually abrade. The fracture is rough.

The surface treatment which characterizes this ware consists of two thin films. The under film appears to be a creamy-buff, probably true, slip. Over this is a rather bright red-orange, probably ocherous, slip (see Pl. 82:8) which varies from light to dark red-orange. It is fairly even and of medium luster, having a slight sheen (see Pl. 23:6–7) which does not result from burnish. In some places impressions of a brush or of fur are visible in the red film. Usually the red film has scratches or streaks through which the underlying creamy-buff film shows, and the resulting effect is suggestive of old lacquer.

Some of the sherds are of the chaff-tempered *serpentine* type clay, with red slip and burnished surface, but most of them are of a red-burning clay of the *quartz* type. The exterior walls were covered with a light buff slip (0.07–0.15 mm. thick) which formed a smooth surface and upon which was applied a red slip or wash only 0.015 mm. thick. The use of a sandy clay made possible the formation of large vessels with walls only 6–10 mm. thick. The use of a double slip is an interesting technical development. —Matson.

As mentioned above, only jar sherds are known in this ware. They show collared rims with simple lip (Fig. 181:1–3) or with some modeling of the lip (Fig. 181:4–7). The same types of rims and lips are normal to the Well Made Cooking-Pot Ware (cf. Fig. 182:1–6). Rounded bases are assumed to be normal for both wares. These two wares are closely related typologically, not only on the basis of their similar clays but also in their profiles and in the use of a simple red surface film on some of the cooking pots (see below).

Well Made Cooking-Pot Ware

(7–12% of total selected sherd bulk)

This class consists of well made jars, whose collared-rim sherds usually show the horizontal striations which are taken to indicate a fixed-axis turning device. Body sherds are handmade.

[14] Only three of the sherds are from the W 16 cut on Chatal Hüyük. On the other hand, the closely comparable Well Made Cooking-Pot Ware (see below) was well represented in W 16.

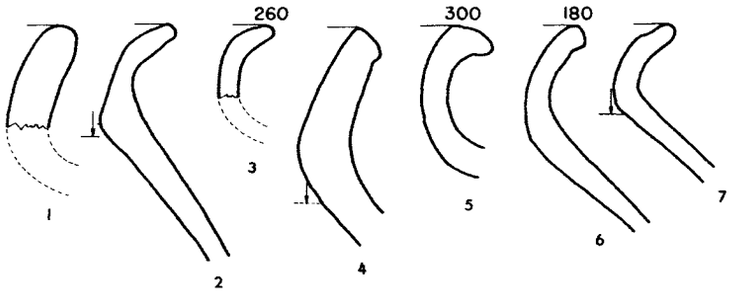

FIG. 181.—PHASE F. RED DOUBLE-SLIPPED WARE. SCALE, 1:3

The clay corresponds in all significant details with that of the Red Double-slipped Ware (see p. 241), although the color is normally a somewhat darker orange-buff. The surface is usually simply wet-smoothed, being only fairly smooth and even and showing some straw pits (see Pl. 23:1–2). The surface color is a rather dull orange-brown buff. In *ca.* 20% of the sherds, however, a thin red ocherous film covers the outer surface and extends to below the neck on the inside (Fig. 182:1, 6). This washlike red film is so thin that it is often impossible to judge whether or not it is present on the body sherds.[15]

The three complete pots and the rim sherds show rather wide-mouthed collared jars with simple lip (Figs. 175:3–4 and 182:1–3, Pl. 23:1) or with some modeling of the lip (Fig. 182:4–6, Pl. 23:2). The complete pots have simple rounded bases, assumed to be normal. No secondary features appeared.

COARSE COOKING-POT WARE

(0–5% of total selected sherd bulk)

This proportionately small group consists of coarse dark bag-shaped handmade pots with more or less markedly outflared rims. The paste varies from dull red-brown to black, with dull brown-black being normal toward the surface. The center of the core is usually unoxidized, and the unoxidized portion makes up *ca.* 80% of the usual unit area of the core. The paste contains a medium concentration of usually very coarse varicolored mineral inclusions; there is also a fine sandy base. Some chaff usually appears, and there are rare bits of shell. The fracture is irregular and rough, the edges abrade, and the core has a somewhat laminated appearance. The surface color varies in the same range as the paste, being normally dull dark brown. The surface is evidently wet-smoothed but remains more or less rough and uneven, having bumpy extrusions caused by the coarse grits (see Pl. 23:4, 11).[16]

The standard profile is illustrated by a complete example from Chatal Hüyük (Fig. 175:2, Pl. 23:11) and rim sherds from Judaidah (Fig. 182:7–9, Pl. 23:4). The rim sherds show how the collars may be more or less abruptly outflared. The rounded base of the complete pot is evidently typical. No secondary features appeared.

UNCLASSIFIED SHERDS

Four sherds from JK 3:21 are of a very fine-grained light red-orange buff clay. They are rim and body sherds of small thin-walled wheelmade jars or bottles. The outer surface is quite carefully burnished. In three of the sherds *ca.* 80% of the unit area of the inner core is incompletely oxidized and slate-gray in color. All surfaces, however, have a very even light orange-buff color. Two of the sherds show no mineral inclusions megascopically; one evidently

[15] See Matson's note on the clays of the Phase G cooking pots (p. 288).

[16] See Matson's note on the clays of the Phase G cooking pots (p. 288).

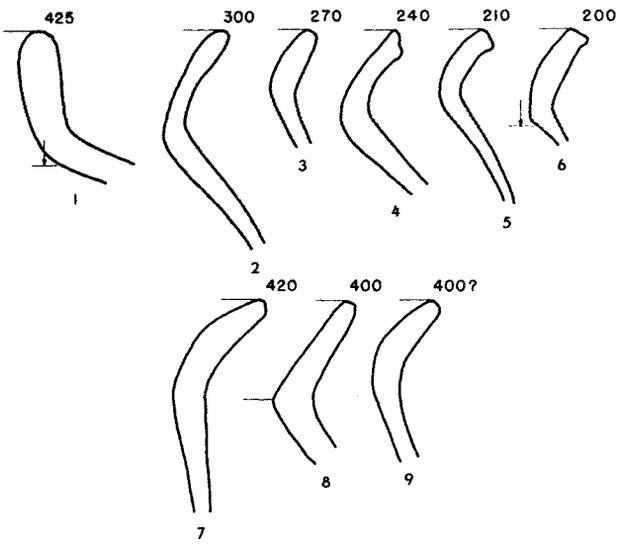

FIG. 182.—PHASE F. WELL MADE (*1–6*) AND COARSE (*7–9*) COOKING-POT WARES. SCALE, 1:3

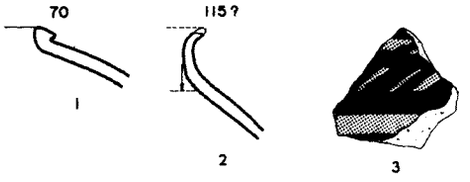

FIG. 183.—PHASE F. UNCLASSIFIED SHERDS. SCALE, 1:3

contains some medium-grained limestone granules which appear as white flecks where the surface has spalled; and one has fine mica-like flecks. The only useful profiles are shown (Fig. 183:1–2, Pl. 23:9).[17]

Another sherd from JK 3:21 has dark painted decoration on a red-slipped (and evidently burnished) surface (Fig. 183:3, Pl. 23:10). It is a small body sherd, probably from a jar which was not certainly wheelmade. The clay is completely oxidized to dull orange-buff. It has a medium concentration of fine to medium-sized varicolored sand. The inner surface is wet-smoothed; the outer surface has a thin red-orange film which is abraded in spots but still has some sheen, though marks of a burnishing tool are not visible. The paint, applied with a fairly broad brush, is rather thin and of a dark purplish-brown shade.

A small group of questionable sherds is described with the Chaff-faced Simple Ware (pp. 237 f.). Recognizably extrusive sherds found in the Phase F depths of JK 3 are illustrated with the First Mixed Range pottery (see p. 104).

[17] If there is any pottery in Phase F which might be related to the so-called Uruk red wares, it would be these four sherds. On the other hand, the field selection of Phase G sherds contains six which fit the description of the four F sherds: four from JK 3:20, one from JK 3:19, one from JK 3:14 (see p. 292). There are certainly too few examples involved here to form the basis for the description of a ware, and the apparent continuation of such pottery from Phase F into Phase G should be kept in mind. There are no examples in either the Phase F or the Phase G sortings which conceivably resemble the so-called Uruk gray wares.

BAKED-CLAY OBJECTS

Only five small objects in clay appeared in Phase F context, all from Judaidah. In three the clay is megascopically similar to that of the Phase F Chaff-faced Simple Ware (see pp. 232 f.). A worked potsherd (Fig. 184:3) is of Dark-faced Burnished Ware clay and possibly extrusive. There is a bead of very fine-grained salmon-pinkish clay.

A rather thick disklike object (Fig. 184:1, Pl. 48:11) may be a very large spindle whorl; it was probably molded around a finger, for the hole is of approximately finger size. A fragment of what seems to be the posterior of a rather formless animal figurine appeared (Fig. 184:2). The small bead (Pl. 49:27) is an elongated barrel. A bead of the same shape and material

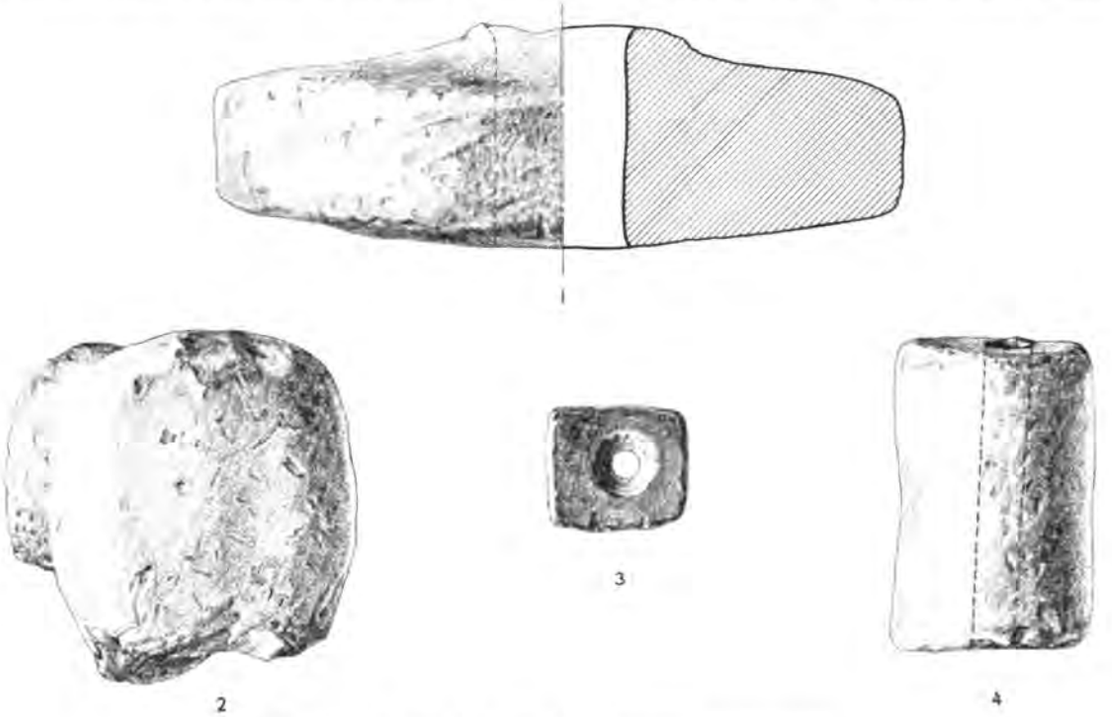

FIG. 184.—PHASE F. BAKED-CLAY OBJECTS. ACTUAL SIZE

appeared in Phase G (see p. 296 and Pl. 49:28). The worked potsherd is perhaps a pendant (Fig. 184:3). Finally, there is a rather large well made pierced clay cylinder with slightly concave side (Fig. 184:4, Pl. 49:15). Fair-sized (i.e., larger than practical bead size) clay cylinders appeared also in Phases G and H, some with incised decoration (see pp. 296, 372), and at least one of them (Fig. 289:5, Pl. 49:16) is very likely a cylinder seal.

METAL OBJECTS

It is assumed that the paucity of metal objects up to this point[18] depends on accidents of deposition and excavation and does not mean that metal was not used in the ʿAmuq until Phase F. But, whatever the case may be, the metal tools available from the Phase F exposure on Judaidah are not only ample in number (in relation to area and depth of operation) but tectonically metallic in design.[19] There are seven small reamers, a pin, a knife or dagger blade,

[18] A "worked stone with metal adhering" noted in the field register for Phase B (see p. 84) and two copper reamers, a wirelike piece of lead, and a lump of slag from the First Mixed Range (see pp. 119 f.).

[19] If a typological sequence of the different types of large tools concerned were presupposed, the Phase F examples would appear to be products made well after the beginning of the industry. It does not, of course, follow that the industry began in the ʿAmuq, but relatively advanced metal tools were available to the ʿAmuq by the time of Phase F.

a projectile point, and one intact and one fragmentary chisel. The beaten surfaces of the larger tools (especially the chisels) and of some of the reamers are fairly well preserved; the surfaces of the pin and the projectile point are badly oxidized.

The reamers have an average length of *ca.* 42 mm. The normal cross section is square or rectangular with rounded corners. Four are pointed at both ends (Fig. 185:2); one is pointed at one end and rounded off at the other (Fig. 185:1). Two of the tools have a double-beveled chisel bit at one end and are rounded off at the other (Fig. 185:3, Pl. 52:5).

The long conical-headed pin (Fig. 185:4, Pl. 53:12) is mainly round in cross section, but the shaft is squared just below the head.

The knife or dagger blade is a symmetrical double-edged tool with a low but easily perceptible central ridge on both faces (Fig. 185:5, Pl. 54:1). Four rivet(?) holes provide for hafting.

The little projectile point (Fig. 185:7, Pl. 54:3) is not complete at the haft end. The tool apparently was symmetrical; the center is raised, but there is not a defined central ridge.

The intact chisel is relatively large and heavy and closely resembles a modern cold chisel (Fig. 185:6, Pl. 52:1). The bit is flared, and the bevel is much more sharply worked from one face than from the other. The beaten outer layer of metal has disappeared from the butt end, but there is no sign of splaying such as would normally result from hammer blows. Only the butt of the fragmentary chisel (x3548) is preserved.

Spectrographic analyses indicated concentrations of elements (see p. 38) as follows:

REAMERS

x3647 Major: copper, nickel; minor: arsenic; other traces weak (Fig. 185:1)
x3731 Major: copper; minor: antimony, arsenic, nickel; other traces weak (cf. Fig. 185:2)
x3732 Major: copper, nickel; minor: arsenic, iron; other traces weak (Fig. 185:2)
x3770 Major: copper, nickel; minor: arsenic; other traces weak (cf. Fig. 185:2)
x3771 Major: copper, nickel; minor: arsenic; other traces weak (cf. Fig. 185:2)
x3781 Major: copper, nickel; minor: antimony, arsenic, silver, silicon; other traces weak (Fig. 185:3)
x3836 Major: copper, nickel; minor: arsenic, cobalt; other traces weak (cf. Fig. 185:3)

PIN

x3777 Major: copper, nickel; minor: arsenic; other traces weak (Fig. 185:4)

BLADE

x3816 Major: copper, nickel; minor: antimony, arsenic; other traces weak (Fig. 185:5)

PROJECTILE POINT

x3782 Major: copper, nickel; strong: arsenic; minor: antimony, silver; other traces weak (Fig. 185:7)

CHISELS

x3548 Major: aluminum, calcium, copper, iron, nickel, silicon; minor: magnesium; other traces weak
x3685 Major: copper, nickel; minor: arsenic; other traces weak (Fig. 185:6)

FLAKED STONE OBJECTS

The flints of Phases F–H are described together by Mrs. Payne (pp. 533–37) since all belong to the same industry, which is characterized by Cananean sickle blades (Fig. 186:9–10), but various items should be mentioned here with respect to the Phase F flints. Table V (p. 539) shows that Phase F is poorly represented by only 134 flints and 32 obsidian artifacts. A certain amount of extrusive material was observed in the pottery from the Phase F range (see Table III), and a small but definite amount is observable among the flints also.

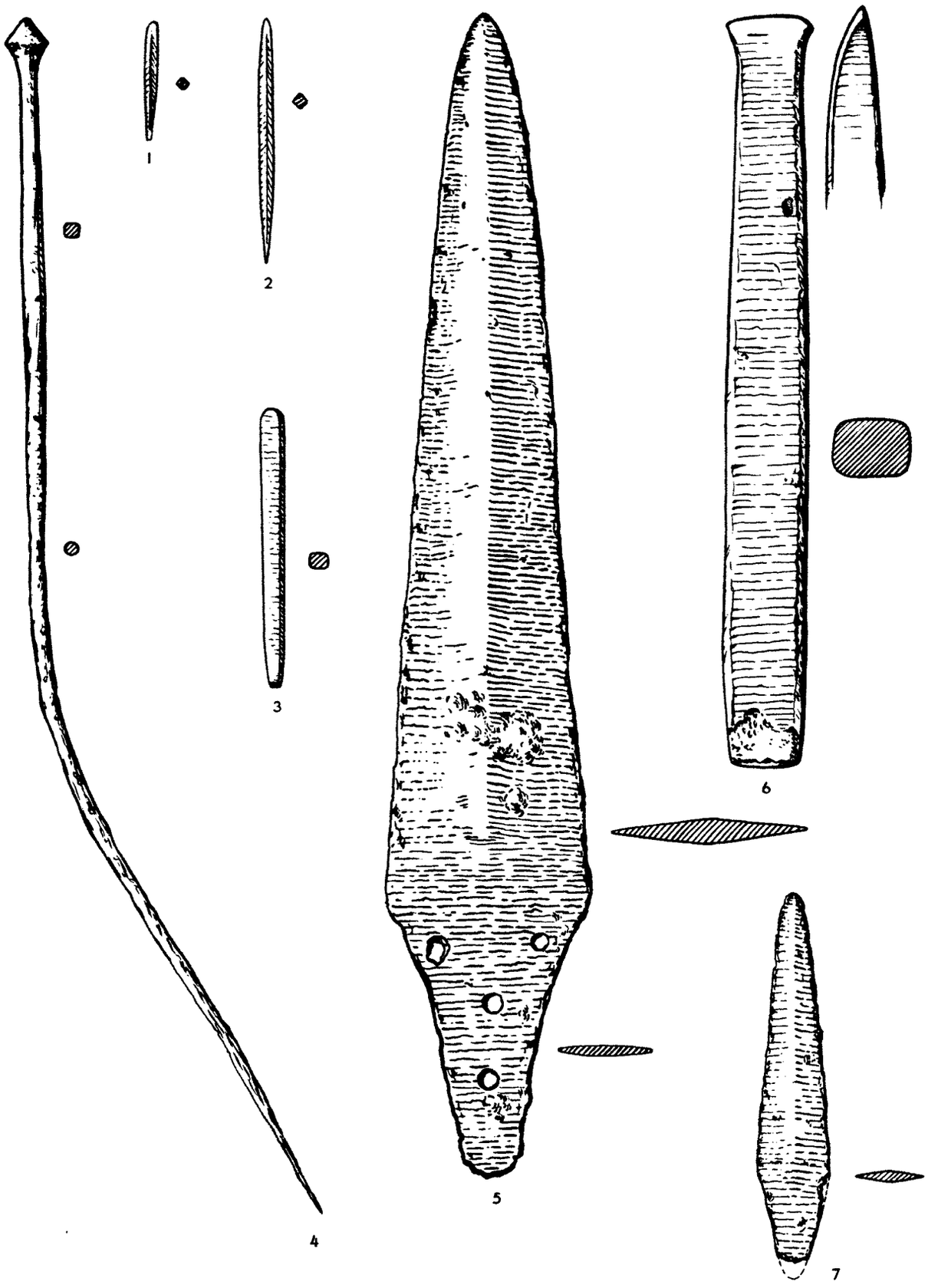

FIG. 185.—PHASE F. METAL OBJECTS. ACTUAL SIZE

Projectile Points

One of the three projectile points (not shown) may well be extrusive and of Phase B. It is the head portion of what must have been a long javelin point with fairly good fluting retouch over the upper face meeting at the midrib. The bulbar face is not retouched. Of the other two examples, one (Fig. 186:1) may or may not belong to Phase F. Its general shape and thinness are reminiscent of the few Phase E examples. The retouch, however, is much rougher and coarser than that encountered in E. The other (Fig. 186:2) may well belong to Phase F. In shape and retouch it stands by itself as regards the projectile points of other phases.

Sickle Blades

Out of thirty-one sickle blades, twelve are definitely extrusive. Six are of Phases A–B type, and six are of types confined to Phases C–E. Five of the latter have steep retouch on back and ends (see p. 208, type 1*a*), two being trapezoidal, two curved and somewhat lunate-like, one triangular and straight-ended; the sixth (see p. 208, type 1*b*) has one diagonal end with steep retouch.

The remaining sickle blades (with the possible exception of two which are nondescript and defy placement) belong to Phase F. Ten are on Cananean blade sections (Fig. 186:9–10 and Pl. 65:8, 10). The widths vary between 24 and 26 mm., with one exception which is 31 mm. Five of these sickle blades are fairly long, varying from 84 × 26 × 7 to 105 × 26 × 6 mm. (Fig. 186:9). Five are shorter; two of these (74 × 31 × 8 and 64 × 23 × 4 mm.) are probably complete, and three (44 × 24 × 5 to 55 × 24 × 8 mm.) may perhaps be broken. On the whole the denticulation is pronounced, irregular, and fairly closely spaced. The retouch forming the denticulation is apt in some examples to be rough and quite steep, extending back into the thicker part of the blade and thus making a strong working edge.[20] In four the denticulation is formed by bulbar-face retouch, in three by upper-face retouch, and in three by alternate retouch, that is, bulbar-face retouch along one edge and upper-face retouch along the other. The ends, either one or both of them, are snapped and straight. Both edges of three examples have been used as sickle edges.

The other seven Phase F sickle blades are on narrower middle sections with straight snapped ends. The largest is 53 × 19 × 5 mm., the smallest 38 × 19 × 6 mm., and the average measurements are 46 × 19 × 5 mm. The sections are somewhat narrow to be parts of Cananean blades, but smaller blades were produced along with large Cananean blades (at least through Phase H). Some were probably by-products resulting from the manufacture of Cananean blades; others were undoubtedly produced intentionally for making smaller tools. Three of the sickle blades were used along both edges. The only retouch, as in the Cananean blades, is on the working edge. The denticulation retouch is rough and usually quite steep. It is on the bulbar face in three examples, on the upper face in three, and alternate in one example. The teeth on the whole are fairly large and close together (Pl. 65:7), as in the Cananean sickle blades.

Blades and Blade Sections

The blades are small and not Cananean. Two have large striking platform and are probably of Phase F manufacture; the others may well be extrusive. Only seven of the blade sections are Cananean. The largest Cananean section (121 × 20 × 6 mm.) is also the narrowest (Fig. 186:8). The others range from 23 to 34 mm. in width (27 mm. being the average for all seven) and from 42 to 74 mm. in length. Six of the blade sections are tiny like those preferred in

[20] The examples illustrated by drawings (Fig. 186:9–10) were chosen mainly for size and are not typical as regards denticulation, which is not so pronounced in other examples. This feature is better seen in the two which are illustrated by photographs (Pl. 65:8, 10) and on examples of other phases such as Figs. 294:6 (right edge) and 325:5 (both edges).

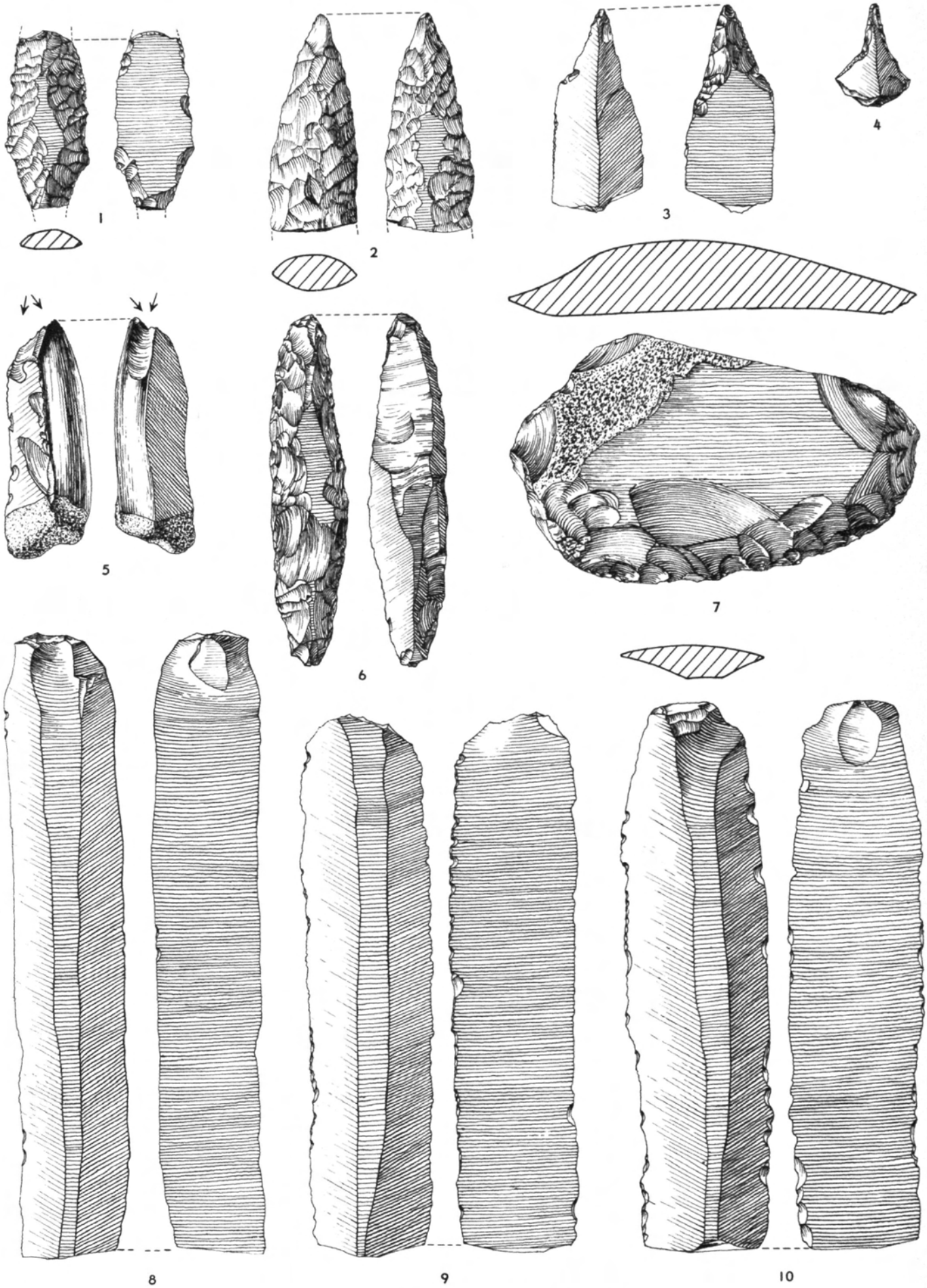

FIG. 186.—PHASE F. FLINTS. ACTUAL SIZE

Phases A–B. The rest are broad and fairly short, but nondescript. Most of the blades and sections show slight signs of use along the edges.

Flakes and Scrapers

Some of the flakes and scrapers which would seem to belong to Phase F are of great size and show faceted or large plain striking platform. They must be derived from large nodules such as were required to make Cananean blades.

Cores

Not much information can be obtained from the cores. All are small. Three are neat blade cores such as are found so abundantly in Phases A–B; the others are rough flake cores.

GROUND STONE OBJECTS

Vessels

There are seven fragments, all from Judaidah. Five are from well ground and polished vessels, mostly small; the other two are parts of coarse mortar-like containers of basalt.

Two small cuplike containers (Fig. 187:1–2) have rounded lips and sides and probably had rounded bases. No. 1 is decorated with two incised grooves which define a narrow band slightly

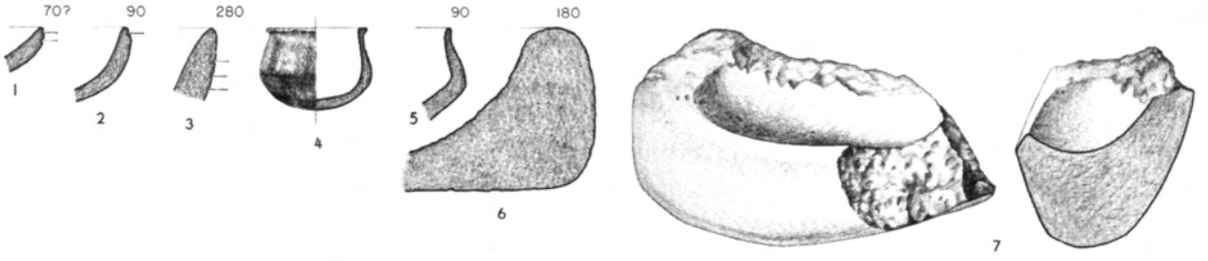

Fig. 187.—Phase F. Fragmentary Stone Vessels. Scale, 1:3

below the rim, and No. 2 has one incised groove which defines a narrow band at the rim. A rim fragment of a large bowl with rounded lip (Fig. 187:3) has three shallow grooves well below the rim outside. The two decorative bands formed by the grooves are 5 mm. (upper) and 6 mm. wide. It would be interesting to know whether the vessel had more than three grooves and, if so, whether the distance between them was progressively increased so that a third band was 7 mm. or more wide. Two other small cuplike vessels (Fig. 187:4–5) have a marked change in plane, in No. 5 so sharp that the break is angular. No. 4, which is almost a miniature (d. 40 mm.), has a flattened outsplayed lip. The rounded lip of No. 5 has a slight outward flare. The base was probably rounded as in No. 4. One of the two mortar-like bowls (Fig. 187:6) was fairly large and seemingly symmetrical in shape, with rounded rim, straight exterior, and flat base. The exterior is very rough (pecked into shape, with little grinding); the interior is fairly smooth, but pitted, and is stained with red ocher. The other mortar-like container was asymmetrical, perhaps best described as boat-shaped except that one side (even after breakage) is markedly higher than the other (Fig. 187:7, Pl. 67:13). This odd shape is particularly well suited for being held in the left hand. Both exterior and interior are smoothly ground but pitted, and the interior is stained with red ocher.

Celts

There are four celts, all from Judaidah. All are smoothly ground and polished.

A medium-sized tool of adzlike profile is extremely well made, with highly polished surfaces (Fig. 188:1). Both faces taper to the working edge with no apparent change in plane. It is dif-

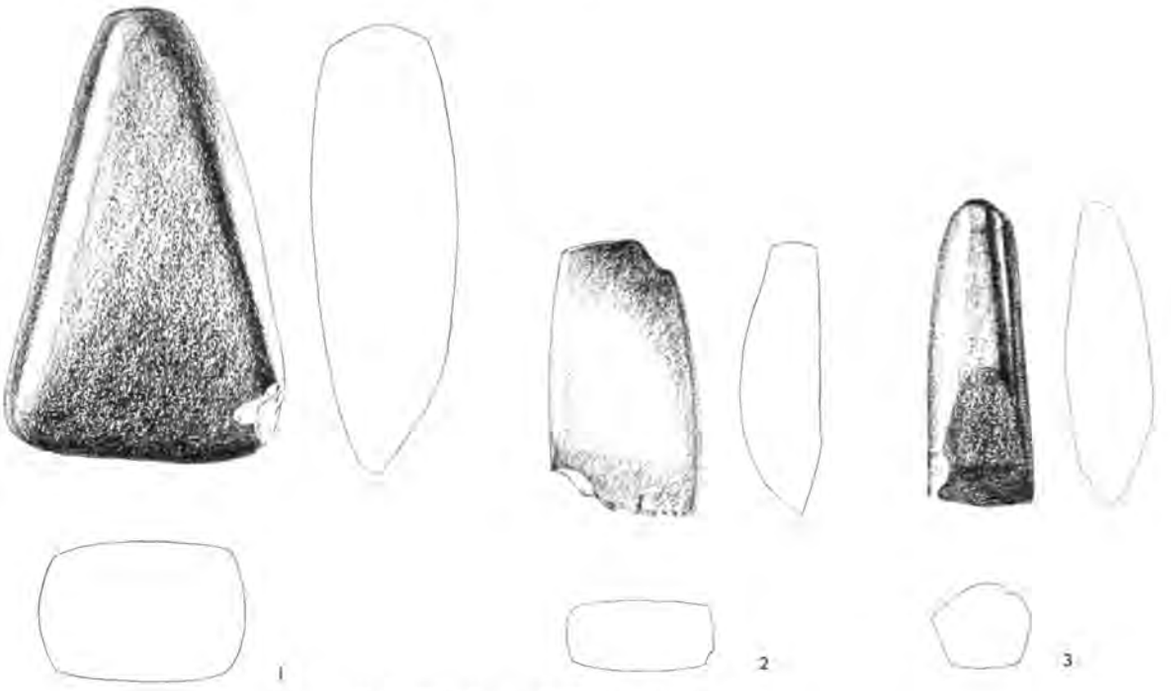

FIG. 188.—PHASE F. CELTS. ACTUAL SIZE

ficult to understand the function of this tool, for the slightly convex working edge is blunt and rounded off by polishing. The only signs of wear are at each end of the working edge, where the two corners are nicked by use. The other medium-sized tool is a fragment (x3560) with sharp slightly convex working edge. The one sizable bit of face that remains shows poorly defined beveling parallel to the working edge. It cannot be said whether the tool was used as an ax or an adz.

One of the two small tools is adzlike; the other is a chisel. The adz, though smoothly finished, is asymmetrically shaped. Much of the slightly oblique working edge is chipped from use. The upper face (Fig. 188:2) has poorly defined beveling parallel to the working edge. The lower face is quite flat, tapering slightly, with no apparent change in plane at the working edge end. The chisel has a sharp straight working edge. The upper face (Fig. 188:3) has a slight well defined bevel parallel to the working edge. An earlier step in the tapering of this face toward the working edge is apparent in a rounded change in plane in addition to the later straight bevel. The lower face slopes gradually, with no marked change in plane, to the working edge. The tool is not well shaped but is highly polished.

POUNDERS AND GRINDERS

The three examples are from Judaidah. One (Fig. 189:1) is undoubtedly a large ax which was reused as a double-ended pounder after the working edge became dulled; both butt end and blunt convex working edge are battered. The rest of the surface, although pitted, is smoothly ground and in spots slightly polished. Another tool (Fig. 189:2) may also be a reused celt, for the edges are carefully squared and the transverse section is rectangular; moreover, most of the surface is smoothly ground and highly polished. Both ends, however, are so rounded-off by use for grinding and pounding that any beveling or tapering of faces such as is normal in celts would have been worn away. An object with one squared and one rounded end (Fig. 189:3) was probably used as a grinder. It is carefully pecked into shape but not ground or polished.

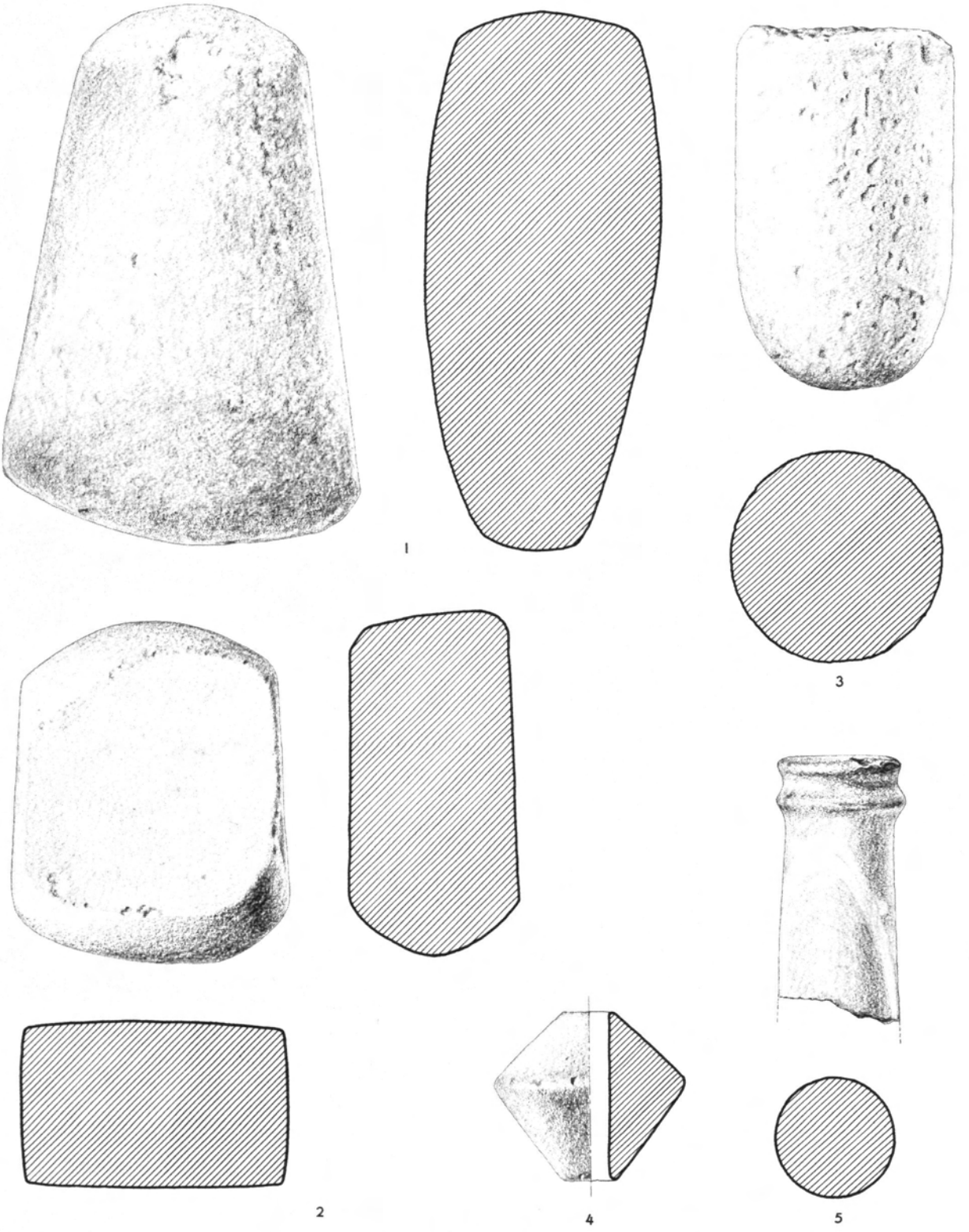

FIG. 189.—PHASE F. GROUND STONE OBJECTS. ACTUAL SIZE

Whorl

The only whorl (Fig. 189:4, Pl. 69:13), biconical in shape and with well polished surfaces, comes from Judaidah.

Unclassified Objects

A smoothly ground and polished cylindrical object of limestone broadens slightly toward the broken end and is decorated with a raised band at the intact end (Fig. 189:5). A rectangularly shaped block of pumice (Pl. 67:12) would be useful for shaping wood or bone tools.

Beads

Twenty-eight stone beads[21] were found in Phase F context at Judaidah. The majority are small and short and oblate in shape.

Twenty-one small white beads (all of kaolin?)[22] range from 3 to 6 mm. in diameter and from 1 to 4 mm. in length (Fig. 190:1–2) but average 3.5 and 2 mm. One is cylindrical (No. 1); the others are oblate, with flattened ends and rounded side (No. 2). The perforations are very small. A short bead of unidentified red stone (x3791; d. 4, l. 2 mm.) is small and cylindrical like No. 1 but has a much larger single-bored perforation. A short marble bead (d. 5, l. 2 mm.) is prolate (Fig. 190:3), with a single-bored perforation larger than those of the kaolin(?) group. Two carnelian beads are somewhat oblate in form and have a depression at each end of the double-bored perforation. One of these (Fig. 190:4; d. 10, l. 4 mm.) is from burial x S 16 (see p. 258); the other (x3645) is somewhat smaller (d. 7, l. 3 mm.). An obsidian bead (Fig. 190:5) has an accentuated midrib extending around its slightly irregular side. A long bead of unidentified red stone is somewhat barrel-shaped (Fig. 190:6). A fragmentary bead (x3730) was probably broken while it was being perforated, for it is only roughly blocked out; it represents a long flattened type with oval transverse section.

Pendants

There are five stone pendants, all from Judaidah.[23] A crudely made specimen with single-bored perforation has one ground surface, but much of the other surface (Fig. 190:7) is in its natural rough state. The side edges are ground. The upper edge is thin and may once have been fairly sharp. It is questionable whether this object is in fact a pendant or was used as some sort of scraping tool. A well shaped prolate pendant with round transverse section has a double-bored perforation (Fig. 190:8). The surfaces are smoothly ground and polished though somewhat pitted. A flattened pendant (Fig. 190:9) has a small appendage which may have been broken while it was being perforated. The surfaces are fairly well ground and polished, and both are decorated with lightly scored incisions at the edge. A horn-shaped pendant with two perforations (Fig. 190:10, Pl. 70:20), a type which makes its first appearance in Phase F, is beautifully made and carefully finished by grinding and polishing. In a Phase G example (Fig. 252:34) the two perforations are close to the convex edge, a possible indication that pendants of this type were meant to be suspended in the direction opposite to which No. 10 is drawn. A "lotus-pod" pendant (Fig. 190:11, Pl. 71:8), another type which first appears in Phase F, is made with the same precision as No. 10. It is round in transverse section except for the oval-sectioned head; the perforation is along the shorter axis.

[21] For a clay bead see p. 244.

[22] Fourteen of these (average: d. 3, l. 2 mm.) were found with infant burial x S 16 (see p. 258).

[23] For pendants of other materials see pp. 244 (clay), 256–58 (bone), 258 (shell).

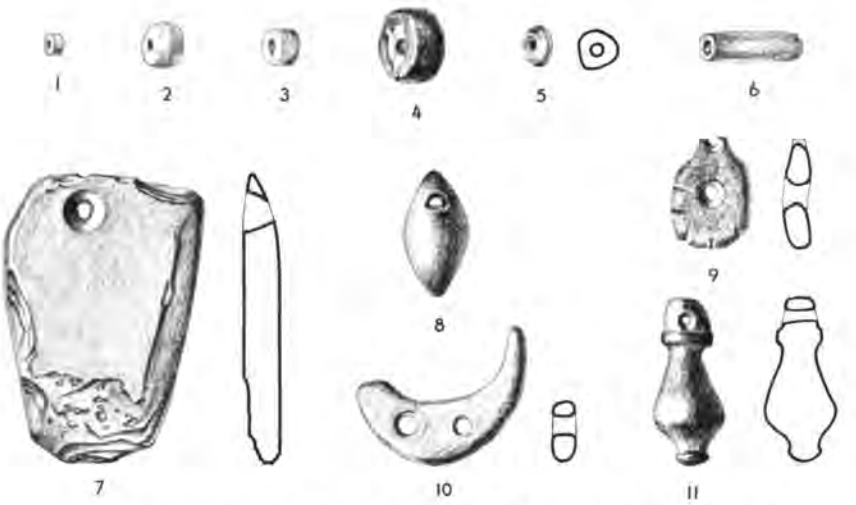

FIG. 190.—PHASE F. STONE BEADS AND PENDANTS. ACTUAL SIZE

STAMP SEALS

Eight stone stamp seals[24] were found in Phase F context at Judaidah (Fig. 191). Geometric decoration is dominant, with slightly more complicated designs on the whole than those of the earlier phases, but representational and possibly naturalistic designs now appear for the first time.

Nos. 1 and 2 have perforated stalk handles. Their designs consist of zigzags in phase. The base of No. 2 was originally rectangular. After the breakage in antiquity of its handle, another perforation was made through the base (represented by raised blob in impression). The design on the trapezoidal base of No. 3 is worn. No. 4 is pyramidal, No. 5 hemispheroidal. Their designs show quadrants with fill. That of No. 4 is askew and not clear, but it can be seen from the seal itself that each quadrant is filled with a chevron. No. 6 is a gable[25] seal. Its design of chevron-like motifs may possibly be a plant ornament. The largest seal (No. 7) is a gable with representational design. A horned animal with tail and perhaps wings is shown. A chevron fills the space behind the beast. Below the head is an appendage which possibly represents a third leg or perhaps counterbalances the appendage extending from the back of the animal. The break in the seal is unfortunate, for it obscures the end of the second appendage. The space seems too small to allow for duplication of the head even at a smaller scale; a curved bit of incision at the break probably indicates that the appendage ended in curved lines similar to those which encumber the two feet of the animal. The general effect of the design when reversed (with "feet" at top and "head" down) is of a multiheaded horned beast. The design on a third gable seal (No. 8) may possibly be unfinished.

"STUDS"

There are three "studs" from Judaidah (Fig. 192, Pl. 71:19–20), all very carefully shaped and finished. The smallest one (Fig. 192:2, Pl. 71:20) has three neatly drilled depressions in the dome, possibly meant to receive inlays.

[24] Not including a fragment with geometric design (x3859) which is registered but not catalogued or photographed. See p. 258 for bone stamp seals.

[25] Stamp seals with more or less rectangular base and triangular transverse section were so named by Hogarth (*Hittite Seals* [Oxford, 1920] p. 18). They first appear in Phase F and continue in Phase G (see p. 487).

FIG. 191.—PHASE F. STONE STAMP SEALS. ACTUAL SIZE

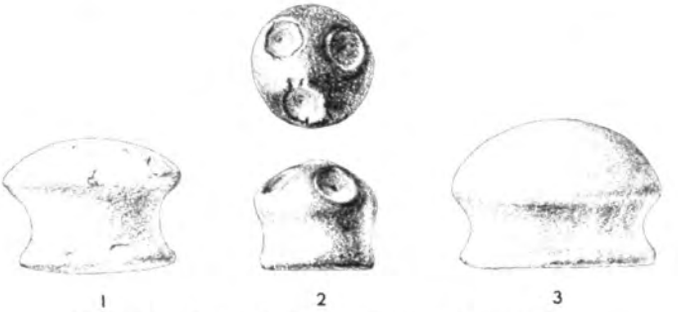

FIG. 192.—PHASE F. STONE "STUDS." ACTUAL SIZE

Stone Identifications

VESSELS

x3729 greenstone, almost monomineralic chloritic (Fig. 187:5)
x3774 greenstone, almost monomineralic chloritic (Fig. 187:1)
x3817 greenstone, almost monomineralic chloritic (Fig. 187:4)
x3837 weathered soft red rock; not identified (Fig. 187:2)
x5090 greenstone, almost monomineralic chloritic (Fig. 187:3)
x5091 coarse-grained basalt containing pyroxene, diopside, felspar, titanite, and apatite (Fig. 187:7, Pl. 67:13)
x5092 coarse-grained basalt containing pyroxene, diopside, felspar, titanite, and apatite (Fig. 187:6)

MEDIUM-SIZED CELTS

x3560 diabase, rich in hornblende
x3695 peridotite with fresh olivine (Fig. 188:1)

SMALL CELTS

x3687 fine-grained diabase or dolerite (Fig. 188:3)
x3769 serpentine-hornblende rock (Fig. 188:2)

POUNDERS AND GRINDERS

x3561 fine-grained hornblende rock (Fig. 189:1)
x3821 diabase containing hornblende and plagioclase (Fig. 189:2)
x5071 red sandstone (Fig. 189:3)

WHORL

x3793 weathered greenstone (Fig. 189:4, Pl. 69:13)

UNCLASSIFIED OBJECTS

x3587 pumice (Pl. 67:12)
x3767 red limestone (Fig. 189:5)

BEADS

x3645 carnelian (cf. Fig. 190:4)
x3730 greenstone, almost monomineralic chloritic
x3772 kaolin (Fig. 190:2)
x3773 kaolin (Fig. 190:1)
x3787 weathered soft red rock; not identified (Fig. 190:6)
x3788–89 kaolin (cf. Fig. 190:2)
x3790 rhyolitic obsidian (Fig. 190:5)
x3791 weathered soft red rock; not identified (cf. Fig. 190:1)
x3839 marble (Fig. 190:3)
x3860–62 kaolin (cf. Fig. 190:2)
x4002 14 kaolin(?), $n_a < 1.568$ (cf. Fig. 190:2)
1 carnelian (Fig. 190:4)

PENDANTS

x3546 weathered rusty chlorite-rich greenstone (Fig. 190:11, Pl. 71:8)
x3547 greenstone, almost monomineralic chloritic (Fig. 190:8)
x3785 phyllite schist (Fig. 190:7)
x3840 greenstone, almost monomineralic chloritic (Fig. 190:9)
x3857 soapstone containing talc and chlorite (Fig. 190:10, Pl. 70:20)

STAMP SEALS

x3612 weathered stone; not identified (Fig. 191:7)
x3683 in Antioch Museum; material not analyzed (Fig. 191:2)
x3726 greenstone, almost monomineralic chloritic (Fig. 191:1)
x3775 in Antioch Museum; material not analyzed (Fig. 191:6)
x3776 in Antioch Museum; material not analyzed (Fig. 191:5)
x3792 in Antioch Museum; material (hard black stone) not analyzed (Fig. 191:8)
x3819 greenstone, almost monomineralic chloritic (Fig. 191:4)
x3820 greenstone, almost monomineralic chloritic (Fig. 191:3)

"STUDS"

x3588 white limestone (Fig. 192:1)
x3784 marble (Fig. 192:3, Pl. 71:19)
x3818 weathered soft red rock; not identified (Fig. 192:2, Pl. 71:20)

WORKED BONE OBJECTS

Twenty-nine bone objects were found in Phase F context.[26] The only example that was identified comes from gazelle (Fig. 193:1). Awls are still present, but they are outnumbered by more handsomely worked objects such as pins, pendants, and seals. The awls and the pins are made on metapodials.

Only one awl (Fig. 193:1) represents the type characteristic of earlier phases, with articular surface serving as butt. The point is stocky but sharp. The other complete example (Fig. 193:2) is a well worked awl with articular surface entirely removed. The butt end is ground off smoothly, and the edges are rounded. The upper shaft just below the butt is worked into a rectangular transverse section. The point is sharp but sturdy. There are two awls (x3648, x3614) whose butt ends are missing. Both have sharp slender points. The shaft of one is almost as delicate as a pin shaft, but the object is classed as an awl because its greatest width is greater than is normal for pins and most of the under surface retains the original grooving of the bone.

There are five pins, all well made. In the simplest example (Fig. 193:3) the articular surface is trimmed away (by breaking after partial sawing), but the head is rough and unpolished. The original shape of the bone can be noted at the head (see section), where the under surface preserves the groove representing the original cavity. The remainder of the shaft, however, is round in section. In a more finished specimen (Fig. 193:4, Pl. 74:2) the head is trimmed obliquely and is well smoothed and polished. This example too reflects some of the original shape of the bone in a slight groove on the under surface at the head end. In another pin (Pl. 74:3) all traces of the original shape of the bone are gone. The main part of the shaft is fairly round in section and well shaped. The head is somewhat rounded off but rough; it may, however, have been broken and then reused without much further shaping. A well made pin (Fig. 193:5, Pl. 74:11) with no trace of the original shape of the bone is round in section except at the well finished head, where the transverse section is rounded triangular. Thinning of the shaft above the midpoint is also found in some Phase G examples (see p. 338 and Fig. 256:10). The fifth pin (x3649) is a fragment consisting of a well made delicate point.

Sixteen pendants, identical except for minute variations in size (l. 9–12 mm.), were found in burial x S 16 (see p. 258). They are oval in transverse section, and each is segmented by three incised grooves (Fig. 193:6). Since the two middle segments are about twice as long as the end

[26] Two objects of horn are possibly from Phase F (JK 3:21 or 20) but more likely belong to Phase G (see pp. 340 f. and Pl. 77:1, 3). A pin (x5063) of the same type as Fig. 193:5 is from a cave-in which contained materials mainly of Phases F, G, and H; it is treated with the unstratified material (see p. 496).

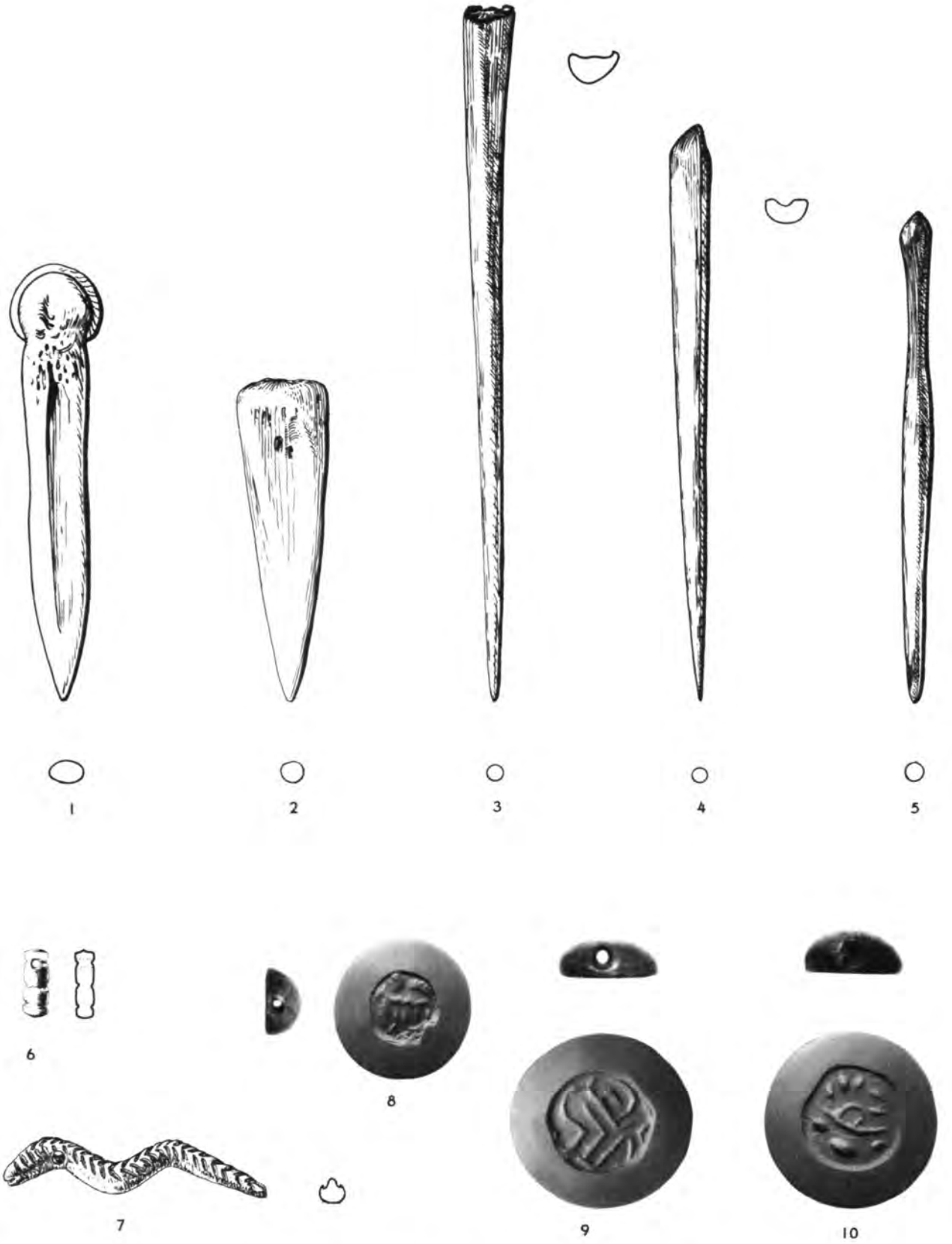

FIG. 193.—PHASE F. WORKED BONE OBJECTS. ACTUAL SIZE

ones, it seems likely that a long piece of bone was first grooved and then cut at the middle of each fourth segment into sections which were separately finished. The perforation, which is always at a groove, may also have been made before the bone was cut into sections.

A convincing representation of a snake (Fig. 193:7, Pl. 76:7) is perforated at one end in pendant fashion. The transverse section is round (d. 5 mm.). The under surface is plain but polished. The upper surface is decorated with incised lines in herringbone pattern and three straight lines incised at right angles to the sides of the head. The mouth is indicated by a horizontal groove. The double-bored perforation seemingly represents the eyes. The object is made with extreme care. The entire surface is highly polished.

Three bone stamp seals were found (Fig. 193:8–10). All three are flattened hemispheroids. No. 9 has a curious design, composed of curved and straight lines, which suggests "doodling" more than anything else. It is a moot point whether the central figure in the design of No. 10 is merely decorative or has some significance.[27] There is sufficient disintegration of No. 8 to make the design unclear. It seems to depict a tailed and perhaps horned animal with two legs showing. The two incisions between the legs are not part of the animal, but it is uncertain whether they represent more than mere space-fillers. The other vague incised bits are probably space-fillers.

FIG. 194.—PHASE F. SHELL PENDANT (x3686). ACTUAL SIZE

SHELL PENDANT

One worked shell object was found in this phase—a crude irregularly shaped pendant from Judaidah. The upper surface (Fig. 194, Pl. 78:8) is the smooth surface of the shell. Much of the other surface is still covered with the tan outer surface of the shell.

BURIALS

Two infant burials in cooking pots (x S 16–17) were found just above the level of floor 22 in the northwest corner of the JK 3 cut (see Fig. 169). The cooking pots (x4922–23) are both of a type normal to Phase F (see Fig. 175:3 for that pertaining to x S 17). Both skeletons were in a quite fragmentary condition, and there are no physical data. The bodies were tightly flexed, on the left side. In x S 16 the hands were more or less under the chin (Pl. 79 *C*). Sixteen bone pendants (see pp. 256 f.) were mixed in with the fingers of x S 16; a carnelian bead (Fig. 190:4) rested just under the chin, and fourteen kaolin(?) beads (see p. 252, n. 22) were in the region of the right elbow. No *Beigaben* were found with x S 17.

NONARTIFACTUAL MATERIALS

MOLLUSCA

Murex (*Truncularia*) aff. *trunculus* LINNÉ, a fossil example of the form from which Tyrian purple dye was extracted (x3725).

VERTEBRATA

Domestic: dog; pig; sheep (or goat); ox.

Homo sapiens: x S 16–17, both too fragmentary for study.

[27] It somewhat resembles the "gatepost" emblem used in Mesopotamia; cf. H. Frankfort, *Stratified Cylinder Seals from the Diyala Region* (*OIP* LXXII [1955]) Nos. 757, 854.

IX

PHASE G

INTRODUCTION

PHASE G materials, defined mainly on ceramic grounds, come from Judaidah JK 3:20–12 fl. (see Figs. 195–201) and step trench TT 20 XV and XIV 1–3 (see p. 10). The exposures totaled *ca.* 167.0 sq. m., and the greatest depth was 4.8 m. The step trench was not excavated with respect to architecture, but the stratigraphy in JK 3 was regular and contained domestic architecture; the materials show a satisfying consistency. From our limited operation at Dhahab (see p. 15) it was impossible to be certain that Phase G was represented because of the fact that the main Phase G wares persist in H.

While the Phase F assemblage shows certain marked technological advances, including the first substantial appearance of metal, Phase G has the first really elaborate assemblage in a technological sense. Much of the pottery has an almost "factory-made" look, the metal industry was very competent, and there is a marked decline in the numbers of flint and ground stone implements. On the other hand, certain industrial traditions continue from Phase F; this aspect is especially clear in the flint industry. The same sort of blending happens at the end of Phase G; the Phase G traits by no means disappear with the beginning of Phase H, which is defined as beginning with the substantial appearance of the brilliant Red-Black Burnished Ware (pp. 358 ff.). But in another sense, this ware (and probably some influence in metal-working, which may have come with it) could be seen simply as an addition to the Phase G industrial traditions. These G traditions die out only toward the end of Phase H or blend into its assemblage.

ARCHITECTURE

The Phase G exposure in Judaidah JK 3 yielded evidence of rectangular-roomed domestic structures of *libn*, some of which were stone-founded. A fair-sized portion of a large circular wall of *libn*, whose original use is uncertain, was exposed. There were, moreover, a fair number of relatively shallow circular pits (silos) and a portion of a narrow stone-paved area which may have served as an external passageway. Since the sequence of floors exposed in the Phase G range of JK 3 was the longest of any in the earlier ʿAmuq phases and since the area exposed was one of our largest in the earlier phases, it might be expected that Phase G would be fairly well known architecturally. Such is not the case; we do not have even a complete room plan, let alone the plan of a structure with several rooms. However, the paltry and straggling appearance of the available Phase G architecture probably reflects some local condition on the fringe of the original village rather than a general architectural impoverishment during the phase. The only types of structural features which are not indicated by the Phase F architecture are circular *libn* walls, marlaceous plaster facing on *libn* walls, a stone door socket, and some less significant details.

Level 20 (Fig. 195 and Pl. 8 *A*) yielded a few stone foundations apparently for small rectangular rooms, some stone paving in the southwest part of the exposure, and a rather jumbled line of stones through the east central part of the cut. Seven circular pits proceeded from the

level of the floor, three with portions of surrounding stone curbings or foundations.[1] In the extreme southwest corner of the exposure was an offset corner of plastered *libn* wall. Just north of one of the larger pits was a group of large basalt artifacts consisting of a boulder mortar, a saddle quern, and a rubbing stone.

In level 19, the excavated portion of the large circular wall of *libn* appeared in its most complete form (Fig. 196 and Pl. 8 *B*). There was little else save a fragment of stone foundation wall and some stone paving at the southeast and a bit of plastered *libn* wall and flooring in the southwest. This *libn* wall included a doorjamb; the opposing jamp was destroyed by a well dug down from level 13. The same well cut the *libn* of the large circular wall, there being otherwise no break or doorway in the available segment of the circle. Presumably any doorway which may have existed in the circular wall was in the unexposed segment to the south. Since there was no evidence inside the circle of either post-holes or stones which might have served as foundations for wooden columns, we assume that the circle was not roofed and that it probably served as an animal pen.

Level 18 (Fig. 197 and Pl. 8 *C*) showed a fair-sized portion of the circular *libn* wall, which may have been used contemporaneously with the other architecture of 18. To its north and west were buildings with small rectangular rooms, oriented to the cardinal points. Some self-founded *libn* walls faced with marlaceous plaster appeared, also stone foundations for other (almost certainly *libn*) walls. The earliest phase of a north-south alley paved with small stones appeared. It broke off at the *libn* circle, there being no clear evidence as to whether it once continued southward. Just east of the alley was a small irregular area, containing some irregular stones. There was a small stone door socket at the corner of the foundation wall which flanked the irregular area on the north. In the extreme northeast corner of the cut were bits of stone foundings which included a small incomplete rectangle suggesting some form of bin.

The uppermost traces of the large *libn* circle were in level 17 (Fig. 198 and Pl. 8, *D*), but, though no architectural features appeared in the area inclosed by the circle, it seems unlikely that the structure was still in service. The plan of level 17 generally resembles that of 18, but, in fact, only the wall on the west flank of the alley represented a rebuilding. West of the alley were traces of three rooms, two with stone-founded walls and stone or pebble flooring and one with, in part, stone-founded *libn* walls. The *libn* faces of the latter were plastered, and the floor of this central room also had a coating of marlaceous plaster. The alley was somewhat widened to the east. Possibly the remaining segment of the old *libn* circle was utilized as a foundation for the south wall of some sort of room or court east of the alley. There was a plastered *libn* bench against the stone-founded plaster-faced *libn* wall on the east flank of the alley. The easterly end of the old circular segment was furred out to the north with *libn* and seemed to form one wall of a passageway into the area containing the *libn* bench. The wall butts along the north and east faces of the exposure were rather incomprehensible; we have suggested connecting an east-west fragment of *libn* wall with an L-shaped plaster-faced fragment which ended in a doorjamb. The face of the opposite jamb was uncovered at the north face of the exposure. A narrow line of stones east of the doorway and a bit of *libn* in the extreme northeast corner of the cut are unexplained; the greater portion of this area was floored with small stones. In the southeast corner of the cut was a partially exposed pit with a mud curbing and some bits of stone and *libn* foundations. Protruding from the central part of the east face of the exposure were bits of *libn* and stone foundations.

Levels 16–13 (Figs. 199–200 and Pl. 9 *A–B*) seemed to reveal little more than pale reflections of the general scheme of levels 18–17. The alley and some form of room immediately

[1] What looks like mud walling around the pits in Pl. 8 *A* is simply debris left in place when the rest of the level was cut lower. This procedure and the drainage channels which appear in Pls. 8 *B*, *D* and 9 *A*, *C* reflect our attempts to carry on operations during the latter part of the rainy season.

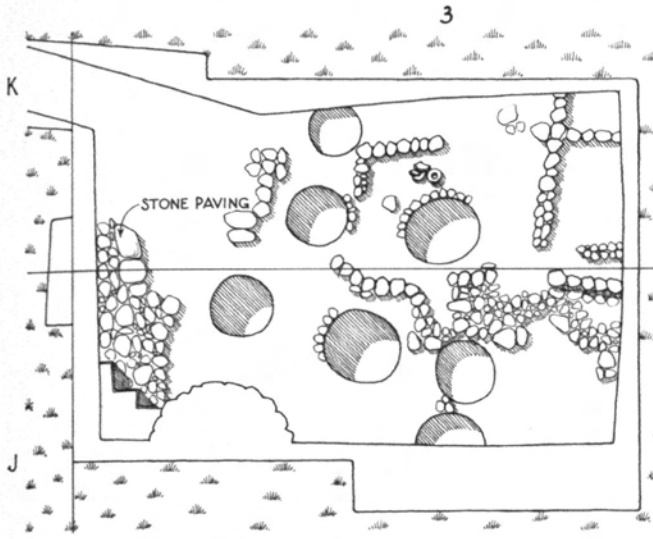

FIG. 195.—PHASE G. PLAN OF JUDAIDAH JK 3:20. SCALE, 1:200

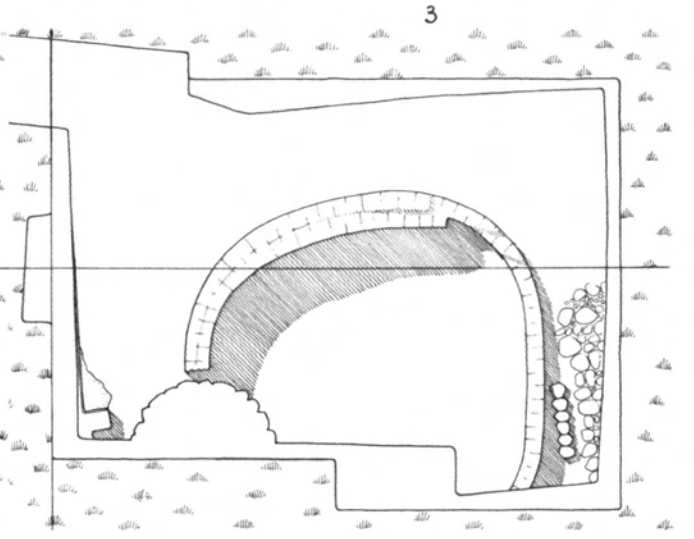

FIG. 196.—PHASE G. PLAN OF JUDAIDAH JK 3:19. SCALE, 1:200

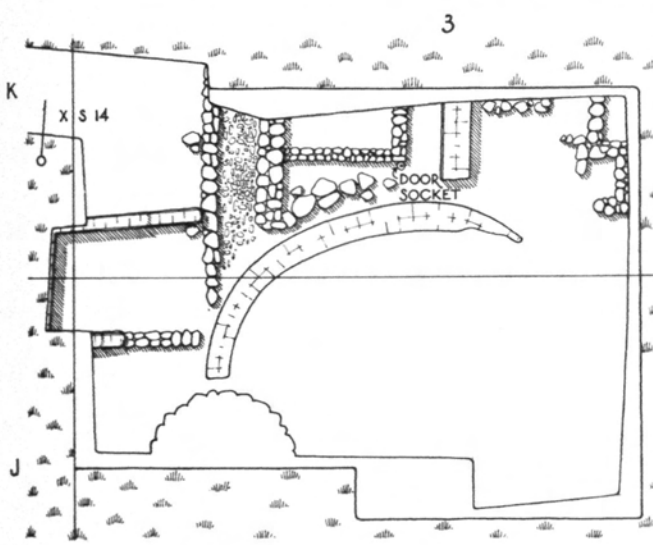

FIG. 197.—PHASE G. PLAN OF JUDAIDAH JK 3:18. SCALE, 1:200

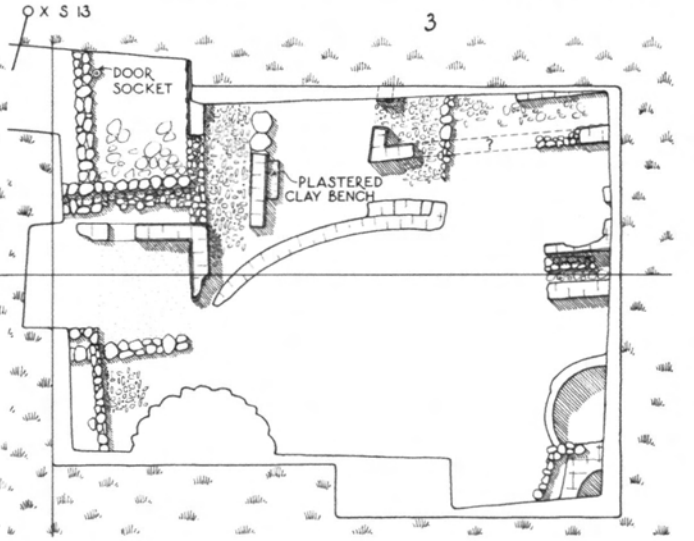

FIG. 198.—PHASE G. PLAN OF JUDAIDAH JK 3:17. SCALE, 1:200

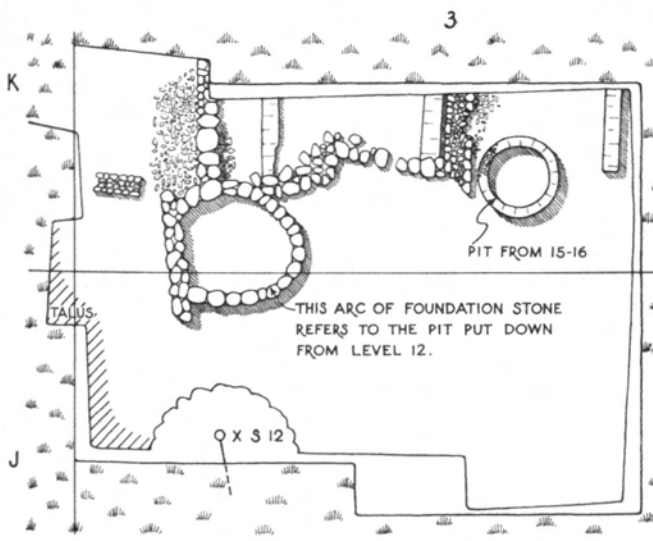

FIG. 199.—PHASE G. PLAN OF JUDAIDAH JK 3:16–14. SCALE, 1:200

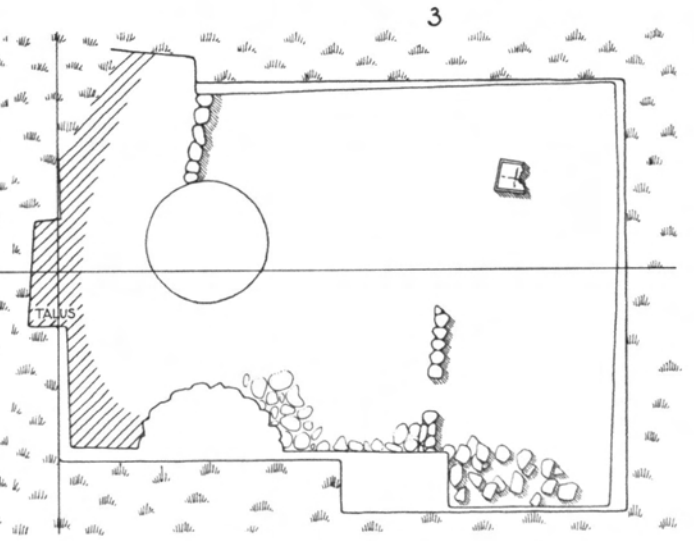

FIG. 200.—PHASE G. PLAN OF JUDAIDAH JK 3:13. SCALE, 1:200

east of it survived into 14. A large stone-founded *libn*-walled pit dug from level 12 proceeded at least to level 14 and incorporated a portion of a level 14 or 15 run of stone foundation as part of its own foundation (see esp. Pl. 9 *A*). The traces of floors recognized from 16 to 14 were close together and separately did not yield much architecture; hence they are shown in a composite plan (Fig. 199). The two north-south *libn* walls protruding from the central part of the north face of the cut and the stone paving and fragment of east-west foundation in the northwest corner refer to level 15. The pit at the northeast proceeded from level 15 but was most apparent in 16; otherwise level 16 consisted only of stone paving in the alley, except for the normal earth floor lines which marked the level generally. Most of the stone foundations shown in Figure 199 refer to level 14. In 13 (Fig. 200) the first traces of construction appeared in the south central portion of the exposure, above the circular *libn* structure founded in 19. These traces consisted, however, simply of a broken run of north-south stone foundation and several areas of disordered stones. In the northeast was the butt of a plastered *libn* wall; in the northwest, a run of stone foundation between the pit dug from level 12 and the north face of the cut. In 13 we also encountered the uppermost courses of the heavy stone lining of a well which proceeded down at least to the level of ground water (see Fig. 20). The sherds taken from the excavated northern half of this structure represent wares characteristic of phases as late as N in some quantity and odd examples from even later phases. An intrusive burial (x S 12) appeared at the level of floors 16–14. Moreover, the area immediately above the well, in levels 12 to 1, was recognized as talus debris. Hence the well did not originate in Phase G and must have been dug at a much later time.

The sherd sampling from the debris above floor 12 indicated that the division between Phase G and Phase H should be drawn at this point, but it seems most likely that the architecture of floor 12 (Fig. 201 and Pl. 9 *B*) should be attributed to Phase G. The plan was new. There were fragments of stone foundations of rectangular structures with several rooms and oriented to the cardinal points, a generous amount of flooring of small stones, and a *libn*-lined pit. Within the pit were traces of a smaller pit, which was actually deeper than the major pit (see Pl. 9 *A*). A stone foundation which extended beyond the east face of the cut had several stones smoothed by wear and a crude sort of stone-built box or frame which presumably served as a door socket.

The Phase G range of TT 20, steps XV and XIV 1–3 (see Fig. 5), was not excavated with respect to the clearance of architecture. The single floor encountered in step XV was a thin somewhat packed layer of earth containing charcoal flecks. Level XIV 1 cut through a variety of *libn* walls with their corresponding floors. In XIV 2–3 not much *libn* or stone foundation was encountered but rather a concentration of four or five floorings of small stones with occasional larger stones. These were not continuous in the horizontal sense over the total distance into the mound through which the trench proceeded. The lowest of these floors is designated XIV 2, and the highest XIV 3; the total depth of this range was *ca.* 60 cm. A cache of metal figurines appeared in the debris just above floor XIV 3 (see pp. 296 and 300–313).

Possibly some of the architecture encountered in trench TT 1 on Dhahab represented Phase G, but it was impossible to isolate it (see p. 259).

Little can be said in general concerning the typical plan concept or the village plan as a whole. The structural units were apparently oriented to the cardinal points and were basically rectangular. The JK 3 cut certainly intercepted no important buildings, perhaps because it was on the edge of the mound. The fact that the stratification in both TT 20 and the upper Phase G range of JK 3 (see sections in Figs. 7 and 201)[2] was apparently undisturbed on the western, or outer, side up to the point of interception by the talus material and the humus

[2] There is still a fairly extensive portion of unexcavated material to the west of the lower Phase G levels of JK 3.

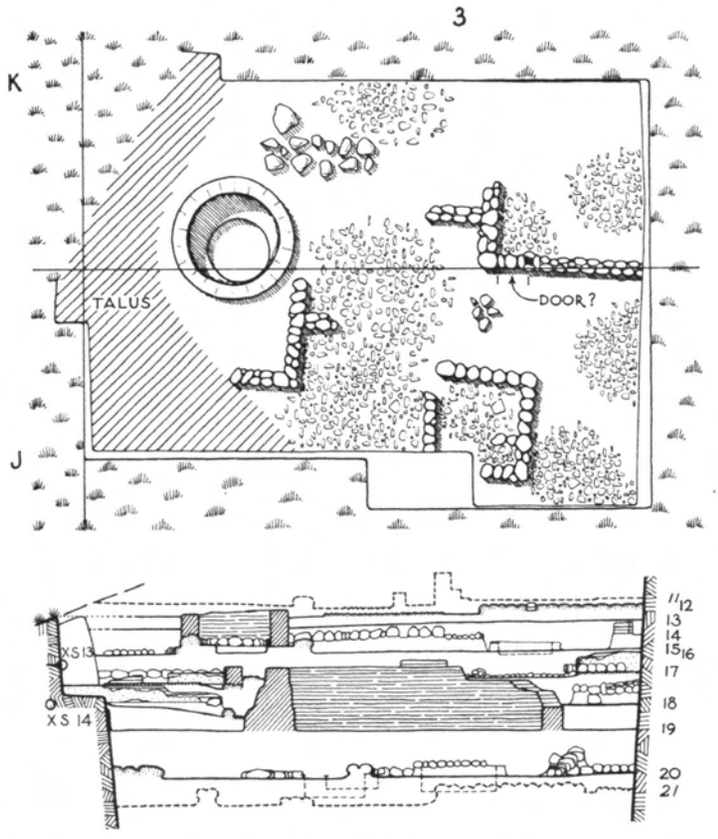

FIG. 201.—PHASE G. PLAN OF JUDAIDAH JK 3:12 AND SECTION OF JK 3:20–12. SCALE, 1:200

line suggests some ancient (post-Phase G) weathering of the mound edge. The strata probably once extended farther westward. Hence, although it might seem that both cuts should have intercepted a Phase G ring wall, supposing one ever existed, the nonappearance of such a fortification may depend on weathering long ago.

POTTERY

The Phase G pottery is described in the main on the basis of the field sortings from Judaidah JK 3. The Phase G occurrence at the base of Judaidah TT 20 (XV and XIV 1–3) represents a more restricted area and is subject to the limitations of our vertical-face method of operations (see p. 10), but it does not differ in any significant way from that of JK 3. The sherds of Phase G types from Dhahab can be useful only in a typological sense because of the unreliability of the stratigraphy (see pp. 14–15, esp. n. 13, and 350, n. 2).

The potsherds from the Phase G range in JK 3 have a very satisfactory consistency. There are suggestions that certain simple profiles characteristic of Phase F are used in Phase G; the same certainly holds true for some of the cooking-pot forms (as well as for the flint industry). There is evidence to suggest some change within Phase G, especially in Plain Simple Ware profiles, but this does not detract from the general consistency of the Phase G pottery. All of the main Phase G wares continue on into Phase H, although typological differences are generally observable.

The suggestion of continuity of occupation from Phase F into Phase G in the JK 3 area is strengthened by a small bulk of sherds of Phase F types from the earliest two floors (20–19) of Phase G. However, this fact as regards floor 20 cannot be used at its face value, since shallow pits which extended from floor 20 into the debris above floor 21 (see pp. 259 f.) could ac-

count for some extrusion. Extrusion is apparent in a small percentage of Phases A–E sherds from the earliest two Phase G floors. Proportionately the condition is as follows:

	Phase G Type Wares	Phase F Type Wares	Earlier Wares
JK 3:20.....	65–70%	17–23%	11–16%
JK 3:19.....	81–86%	6–11%	6–11%
JK 3:18.....	94–99%	insignificant	insignificant

The Phase F and earlier sherds noted here are treated under the pertinent phases (see e.g. p. 232 and Fig. 173:7–11).

Phase G is defined ceramically as the range in which the following types of pottery are present:

1. Plain Simple Ware and Simple Ware with Orange-Brown Slip and Burnish.
2. Reserved-Slip Ware, mainly in clay and profiles indistinguishable from those of the Plain Simple Ware.
3. Incised and Impressed Ware, with clay and profiles indistinguishable from those of the Plain Simple Ware.
4. Multiple-Brush Painted Ware, with clay and profiles indistinguishable from those of the Plain Simple Ware. There is also a very small number of painted sherds of the same clay but with motifs not primarily dependent on the multiple-brush device.
5. Four fairly distinct cooking-pot wares, two of which continue from Phase F.

In addition to the foregoing wares there are six sherds in rather brittle red-orange clay which recall the four unclassified red-orange buff sherds of Phase F (see pp. 242 f.) and may presage the Brittle Orange Ware of Phases H–I. Red-Black Burnished Ware, whose substantial appearance defines the beginning of Phase H, makes its first appearance toward the end of Phase G.

The description which follows is based on a total selected field sampling of 2,640 sherds from Judaidah JK 3. There are also some 98 complete or reconstructible pots; a few of these are from Judaidah TT 20 and Dhahab, but most are from JK 3.

Plain Simple Ware

(49–54% of total selected sherd bulk)

It is certain that a fixed-axis wheeling device was used in the production of most of this pottery. The exceptions consist mainly of the bodies of large jars (whose rims are consistently wheelmade) and a few bowls and miniature vessels (pp. 270 f.). The pottery is consistently well fired, and the few examples with gray core are probably accidental. The paste ranges from very light greenish buff, neutral buff, or orange-buff to orange-brown buff, with a few cases of smoked gray-black; light greenish buff, neutral buff, or orange-buff are normal. The mineral inclusions are fine; usually the fabric shows a very fine sandy base with sparse concentration of larger fine white and more rarely red-orange or black particles. Medium, coarse, and very coarse mineral inclusions are rare enough to be considered accidental. Vegetable tempering is rare, although some examples show pits which may result from burnt-out vegetable fuzz. A few sherds show bits of shell also. The texture is generally dense and granular, the fracture smooth and straight. A few samples have a laminated appearance but are very tough. The pottery is generally hard enough so that little abrasion has taken place. The surface (see Pls. 26–28) is even save for the wheel marks, which often develop into fairly large but smooth horizontal rills (especially on the inner surface), and generally wet-smoothed. There are some cases of self-slip, but true slip is rare. The surface color closely follows the range of the paste but is generally lighter and not quite so intense. A normal assortment of surfaces would fall in the range of light (but not intense) buff shades from gray-green to orange (see Pl. 85:6;

undecorated portions of sherds shown on Pl. 85:1–4 and 7 also indicate normal surface coloration). Burnish appears on 7% of the sherds (1–6% of total selected sherd bulk), most characteristically on the inner surface of platters and low bowls (see Pl. 27:6). It may also appear on the outer surface of bottles (see Pl. 28:17) but is not so characteristic of deeper bowls and does not appear on large jars. The burnish strokes are usually fairly continuous and chordal or radial but sometimes form a simple pattern (see Fig. 202:9).

This ware is technologically identical with the Reserved-Slip Ware and the Multiple-Brush Painted Ware of Phase G (see pp. 276 and 281 f.).—Matson.

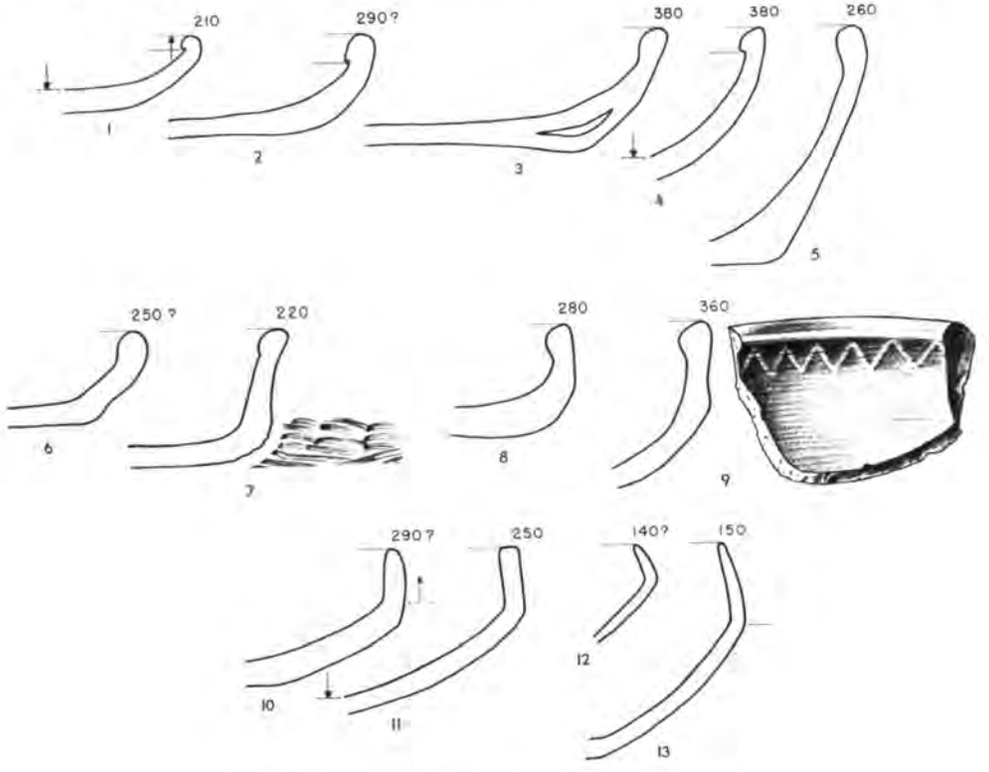

Fig. 202.—Phase G. Plain Simple Ware. Scale, 1:3

One of the most characteristic profiles of Phase G is the platter (Figs. 202:1–9, 203:1–3). Two complete examples are not quite normal; one, from Dhahab (Fig. 203:2), could be from Phase H (see p. 350, n. 2), the second (Fig. 203:3) approaches the deeper bowls in profile, as do those represented by Figure 202:5 and 9. The typical profile (esp. Figs. 202:2–3, 203:1) has more or less sharply inrolled lip, low body wall, and flat base (often warped slightly upward).[3] The bottom usually has a pebbled appearance (see Pl. 27:1), indicating that it rested on a rather rough surface while the clay was still wet. Such bases are described as "ash-laid."[4] Variant profiles are shown on Figure 202:6–8. No. 7 has a "switched" surface treatment on the lower body (cf. p. 237). Burnished examples (Fig. 202:1, 4, 9) include one with zigzag pattern burnish on the inside. The average diameter of the platters is at least 300 mm., but there is considerable variation. Platters apparently are not common on the very earliest Phase G floors but flourish in the middle and late G range and extend into Phase H.

[3] Fig. 202:3 shows an example with a void in the wall near the point where it swings up from the base. The void probably indicates that such vessels were made in two operations: a disk prepared for the base and the body added to it.

[4] Without stress on the "ash," since small pebbles, sand, or a partially smoothed stone slab might just as well have been used.

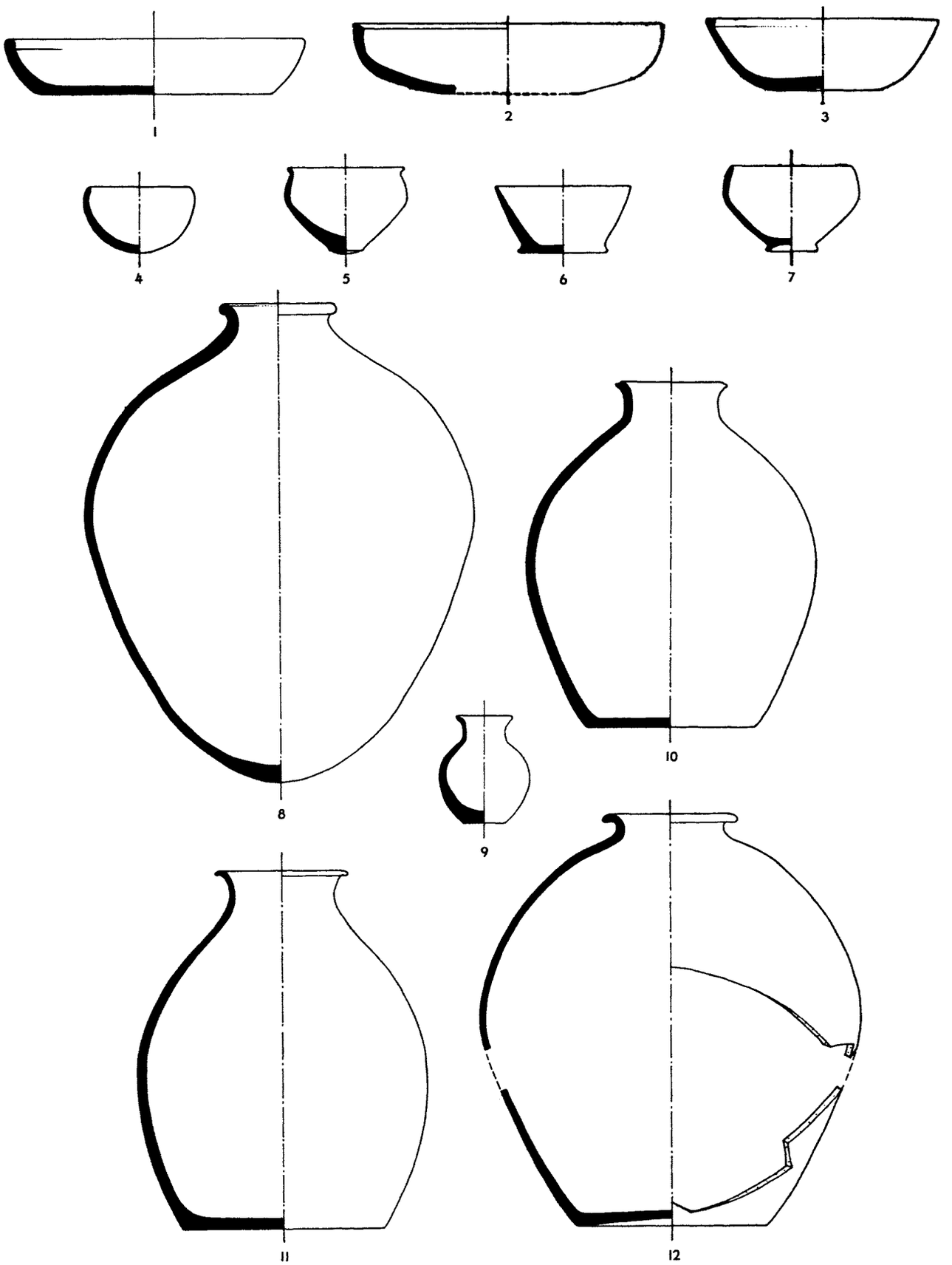

FIG. 203.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:5

A few sherds from the early and middle Phase G floors indicate low double-angled bowls not far removed from the platters in general form (Fig. 202:10–11). The same general profile is suggested by a few sherds of thinner-walled (and sometimes higher) bowls from the earlier floors (Fig. 202:12–13). Megascopically the clay of the latter is certainly that of Phase G Plain Simple Ware, but the profiles directly recall some of Phase F (cf. Fig. 174:18–21).

The field samplings show a sporadic occurrence of plain-lipped hemispherical bowls (Fig. 204:1–2) throughout Phase G. Closely allied to these are plain straight-sided bowls, also of

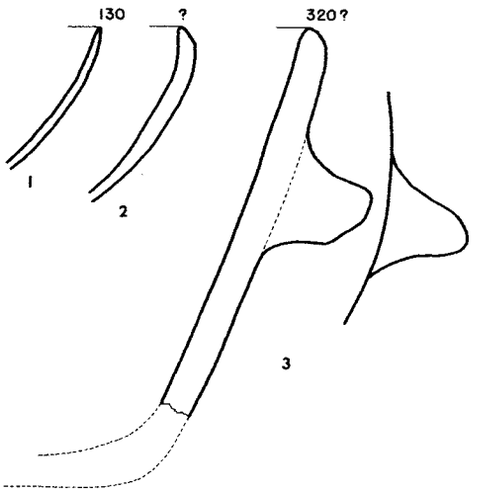

FIG. 204.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:3

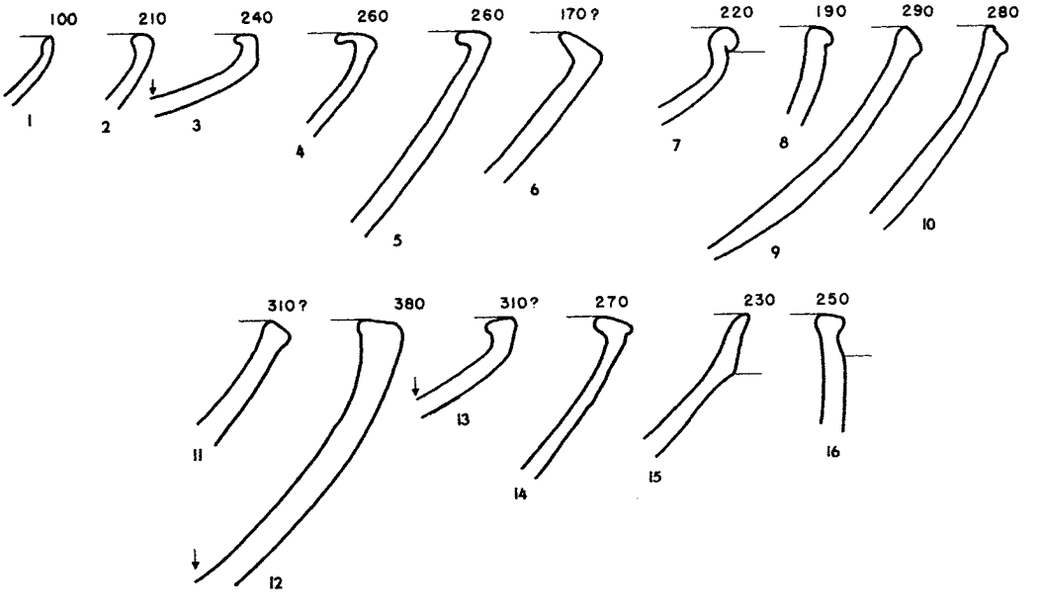

FIG. 205.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:3

rare and sporadic occurrence throughout Phase G. Figure 203:6 shows a small example, while several rim sherds of large bowls also appeared, including one with a lug handle (Fig. 204:3). The bases of the large examples are flat and ash-laid, and there are cases of "switching" on the surface just above the base (cf. Fig. 202:7).

The earliest floors are particularly characterized by bowls with molded lips (Fig. 205:1–16, Pl. 27:3, 9, 10). The sherds indicate subhemispherical or hemispherical bowls, probably with simple flattened bases. The lips are inrolled or inturned (Fig. 205:1–6), outrolled or outstand-

ing (Fig. 205:7–10), or splayed (Fig. 205:11–14). Some are quite exaggerated (Nos. 4 and 14), and two are exceptional (Nos. 15–16). Sherds of this general type appear suddenly in considerable bulk in JK 3:20 and are proportionately numerous on the two following floors. Thereafter, their appearance is modest and, by the end of Phase G, sporadic.

Small bowls or cups with somewhat incurved rim occur throughout Phase G. On the earliest floors, they have fairly well marked shoulder or carination (Figs. 206:8–11, 203:5, 7 and Pl. 27:11). One complete example (Fig. 203:5) has a tool- or string-cut base, a type which is characteristic of the first two floors (see pp. 273 f.). Another complete pot (Fig. 207:8, Pl. 26:6) is most conveniently classified with these carinated cups. There are two corrugated sherds, one from the earliest (Fig. 206:7, Pl. 27:16) and one from the latest floor. Simple incurved cups with (Fig. 206:4–6) or without (Fig. 206:1–2, Pl. 27:7) a slight bead at the lip are more characteristic from the middle to the end of Phase G. The flat bottoms are string-cut on Nos. 1 and 4 and smoothed on No. 2. Somewhat larger incurved bowls (Fig. 206:3) and round-bottomed cups (Fig. 203:4) come from the earlier floors.

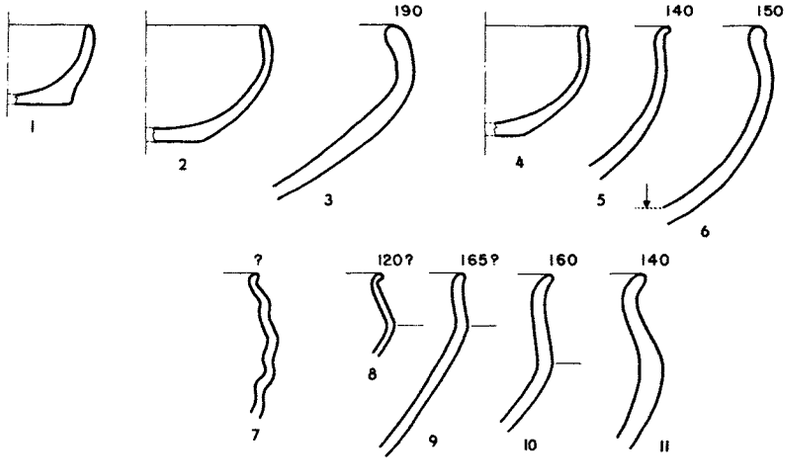

FIG. 206.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:3

Sherds indicating somewhat taller cups or goblets appear throughout middle and late Phase G (Fig. 208:1–5). The base of No. 2 is partially smoothed, and No. 5 has open vertical burnish strokes on the outside. The complete profile must have been essentially that of Figure 223:8.

More closed cups or goblets (Figs. 207:7 and 208:6–7, Pl. 26:5) are rare. The available examples all come from middle Phase G.

Hole-mouth vessels are evidently not common in Phase G (see p. 278). A Plain Simple Ware sherd (Fig. 208:8) from JK 3:14 may represent a hole-mouth form or perhaps an oversize goblet of the type suggested by Figure 225:1.

Sherds of medium to small rather wide-mouthed jars are common on all but the earliest of the Phase G floors (Fig. 209). Nos. 1–2 are most usual, No. 3 shows a somewhat more elaborate lip molding, and Nos. 4–5 represent somewhat larger examples. It may be assumed that all of the normal examples were flat-based. The complete profiles must be like those of Figure 223:10–11, and it is likely that a fragmentary jar of Multiple-Brush Painted Ware (Fig. 223:6) falls within the same range of profiles.

The normal Phase G jars are common throughout the entire range of floors (and into Phase H). They are quite well represented among the complete or reconstructible pots (Figs. 203:8, 10–12 and 207:1–2, Pl. 26:3). Rounded bases are not common save in the largest examples; most of the bases are flat and ash-laid. Profiles varying between those of Figure

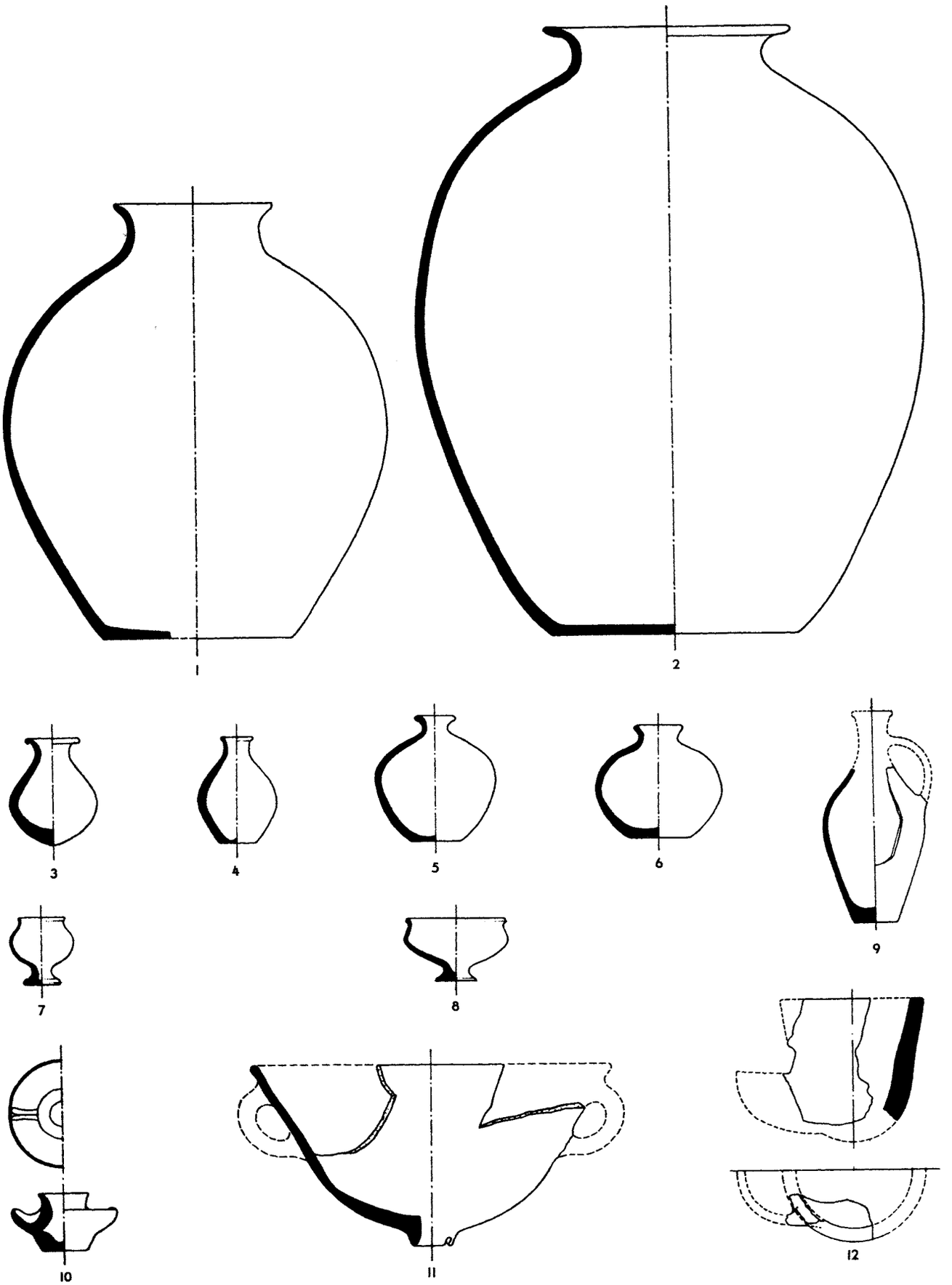

FIG. 207.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:5

203:11 and Figure 207:1 would probably indicate the normal range. The sherds shown on Figure 210 indicate the available range. Nos. 1–4, representing medium-sized jars with more or less carefully outrolled lips, are most typical. Nos. 5–6 show incipient split or channeled lips; Nos. 7–9 are examples of more extreme cases, which appeared in middle to late Phase G. Large storage jars are indicated by a normal rim series (Nos. 10–12) and by some more sensitively formed lips (Nos. 13–15). The largest example found (Pl. 26:3) has an over-all height of 925 mm. and a lip profile similar to that of Figure 210:14; the rather elongated body was rounded into the base (cf. Fig. 203:8). A few of the medium-sized jar sherds show open vertical burnish strokes on the outer surface of the upper body (Fig. 210:5).

Profiles transitional between jars and bottles seem usually to have a more or less well developed neck or collar (Figs. 203:9, 211:2–6), but one sherd with little neck is shown (Fig. 211:1).

Bottles were found on the earliest Phase G floor and continued into Phase H. There is some variety in squat vessels with short necks (Figs. 207:3–6 and 211:7, Pl. 26:9). Flat bases are probably most characteristic, and those of the complete examples are smoothed. Rim sherds of taller bottles (Fig. 211:8–10) begin to appear in the middle range of Phase G and are scattered fairly consistently thereafter. One special type of profile must be considered here, that

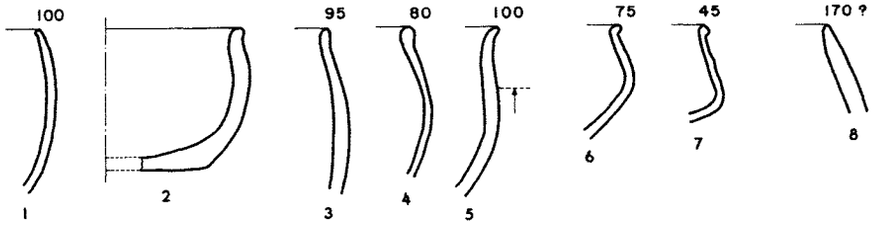

FIG. 208.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:3

is, the "Syrian bottle" (Figs. 207:9 and 211:11, Pl. 28:12, 17), which is most characteristically known with a single loop handle. It is quite likely that the rims shown on Figure 211:8–10 and the bases shown on Figure 211:12–15 (also Pl. 28:16) refer to this type, though the characteristic handle cannot be directly implied from them. Unquestionable "Syrian bottle" sherds (i.e. with the handles present) are not numerous; they too appear in middle Phase G and continue into Phase H. "Syrian bottle" sherds also appear in the Phase G Simple Ware with Orange-Brown Slip and Burnish (p. 275), and the small number available in Plain Simple Ware suggest that a fair proportion of these bottles were vertically burnished (see Pl. 28:17).

The profiles discussed above seem to be normal in Phase G Plain Simple Ware. There are also some exceptional profiles which cannot be readily classified and some sh· ·ds which cannot even be oriented with assurance. Two sherds (Fig. 212:1–2) seem to refer to a funnel base (cf. Figs. 207:11 and 228:2). Two sherds which suggest bowl rims (Fig. 212:3–4) may actually be fragments of flared pedestal bases, especially No. 3, which is sheared off at the point of attachment to some other surface. There is apparently a jar stopper (Fig. 207:10). Slag of cupreous metal (see p. 314) still adheres to fragments of a reconstructible(?) crucible with low spout (Fig. 207:12). Several fragments of rings[5] with one sharp edge (Fig. 212:5), which may have been used for cutting, come from the two earliest Phase G floors. A minute crucible-like bowl (Fig. 235:11) and a fragment of a spouted lamp (Fig. 235:8) are classified with the baked-clay objects (see p. 294).

Handmade pottery occurs sporadically throughout Phase G. A reconstructible bowl (Fig. 207:11) has a funnel base and traces of two loop handles. There are also fragments of two

[5] Or the originals may not have been completely circular.

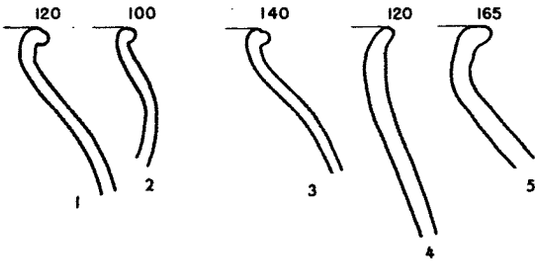

FIG. 209.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:3

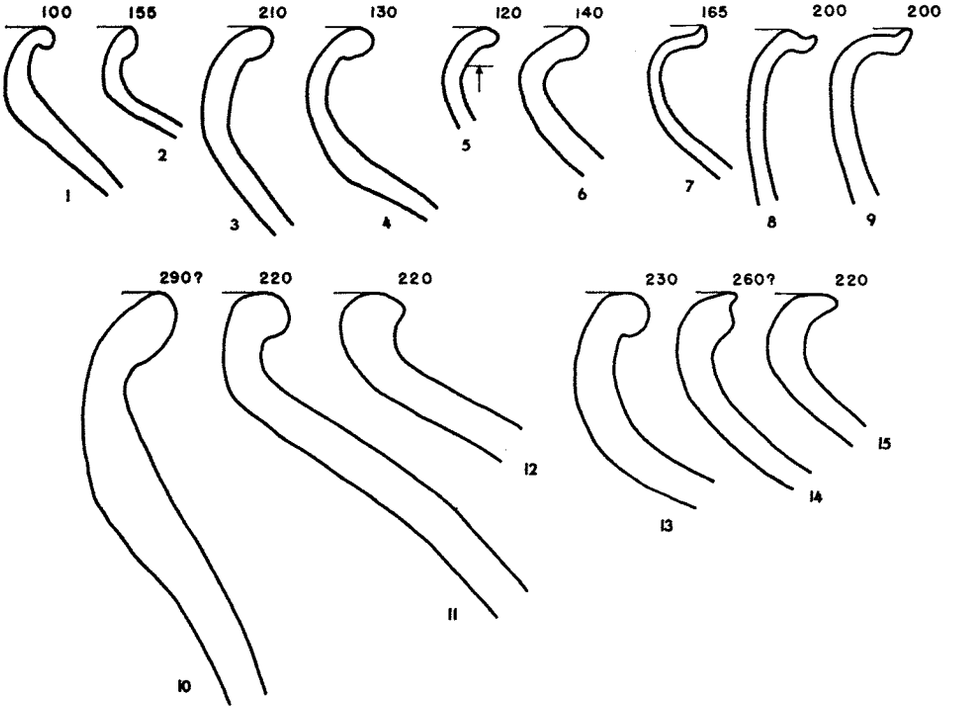

FIG. 210.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:3

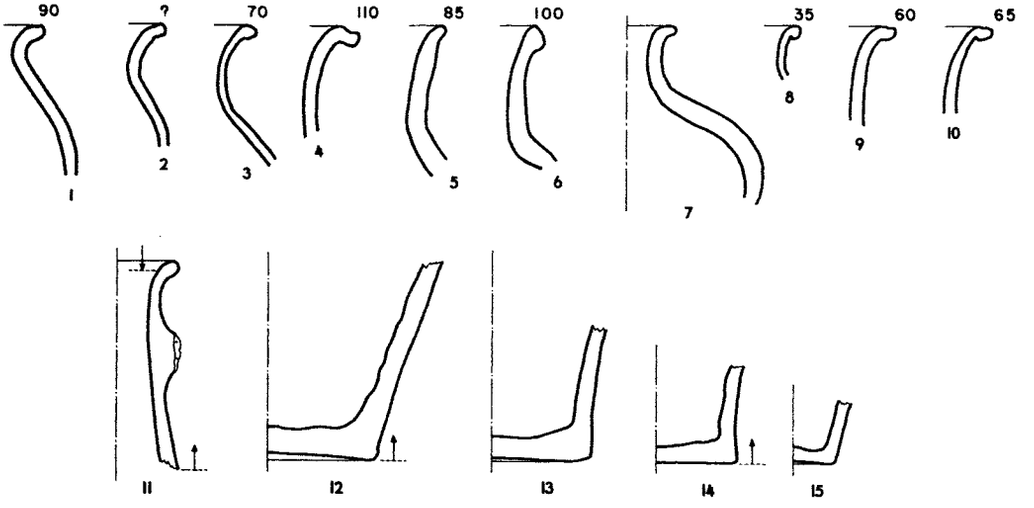

FIG. 211.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:3

large bowls (Fig. 212:6–7). A ladle or scoop (Fig. 212:8) apparently had a basket handle. Miniature jars are represented by Figure 212:9 (see also p. 294 and Fig. 235:10). A cylindrical spout (Fig. 213:9) is rather crudely made.

As regards secondary features, loop handles are scarce, though they seem to appear sporadically throughout the phase. Of the sections shown (Fig. 213:11–15), those which are rounder seem to refer to loops of one- or two-finger size (cf. Fig. 207:11), while those which are more ovoid probably refer to "Syrian bottles" (cf. Fig. 207:9). Two handles which are ovoid in section (Nos. 12 and 14) are very likely from "Syrian bottles," for both are burnished. Applied

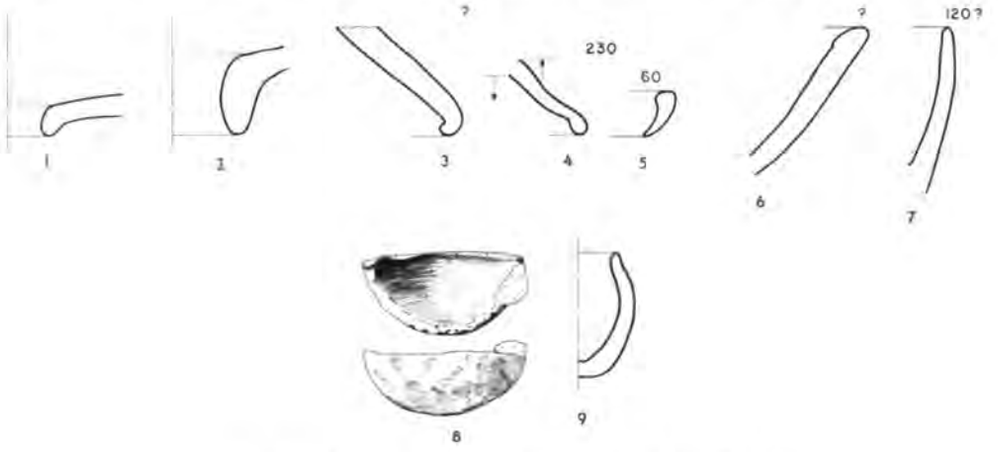

Fig. 212.—Phase G. Plain Simple Ware. Scale, 1:3

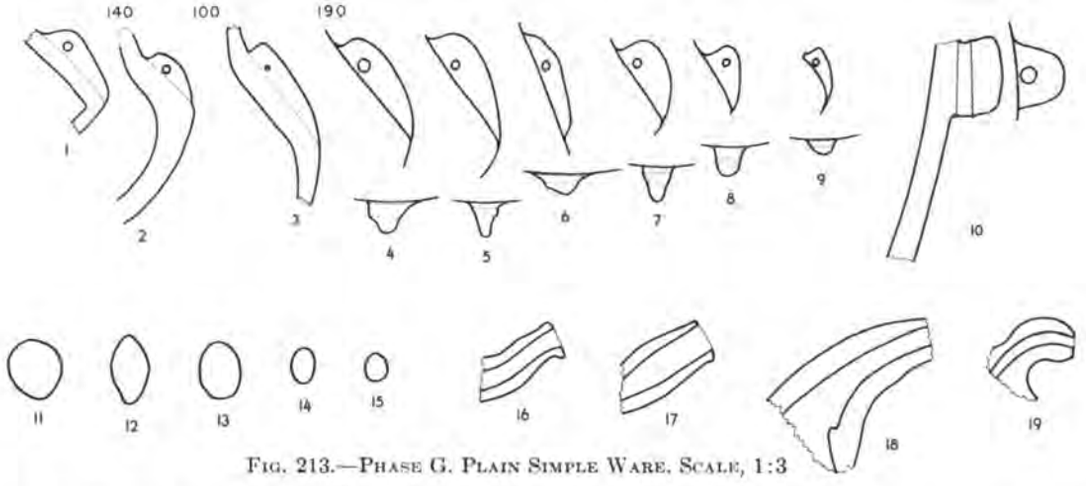

Fig. 213.—Phase G. Plain Simple Ware. Scale, 1:3

lug handles are only fairly usual; they are most common on the earlier floors, and only two or three examples per floor were found in the upper range. The exact type of jar profile to which the lug handles belong is not yet identified, no complete pots with lug handles having been found. The most complete body sherds with lug handles (Fig. 213:1–3) indicate rather small sharp-shouldered jars. The approximate variation in size, profile, and section of horizontally pierced lugs is indicated by Figure 213:4–9 (also Pls. 27:13, 85:6). The lugs were all pierced while the clay was soft. There is only one vertically pierced lug (Fig. 213:10). A bottle rim has a simple hole (of "string-hole" size) bored through below the lip.

Cylindrical spouts appeared only on the two earliest floors save for a possibly extrusive example from JK 3:13. The most usual type is illustrated by that on a Reserved-Slip Ware jar rim (Fig. 219:3, Pl. 29:4) and by an example (Fig. 213:18, Pl. 28:15) from JK 3:21,

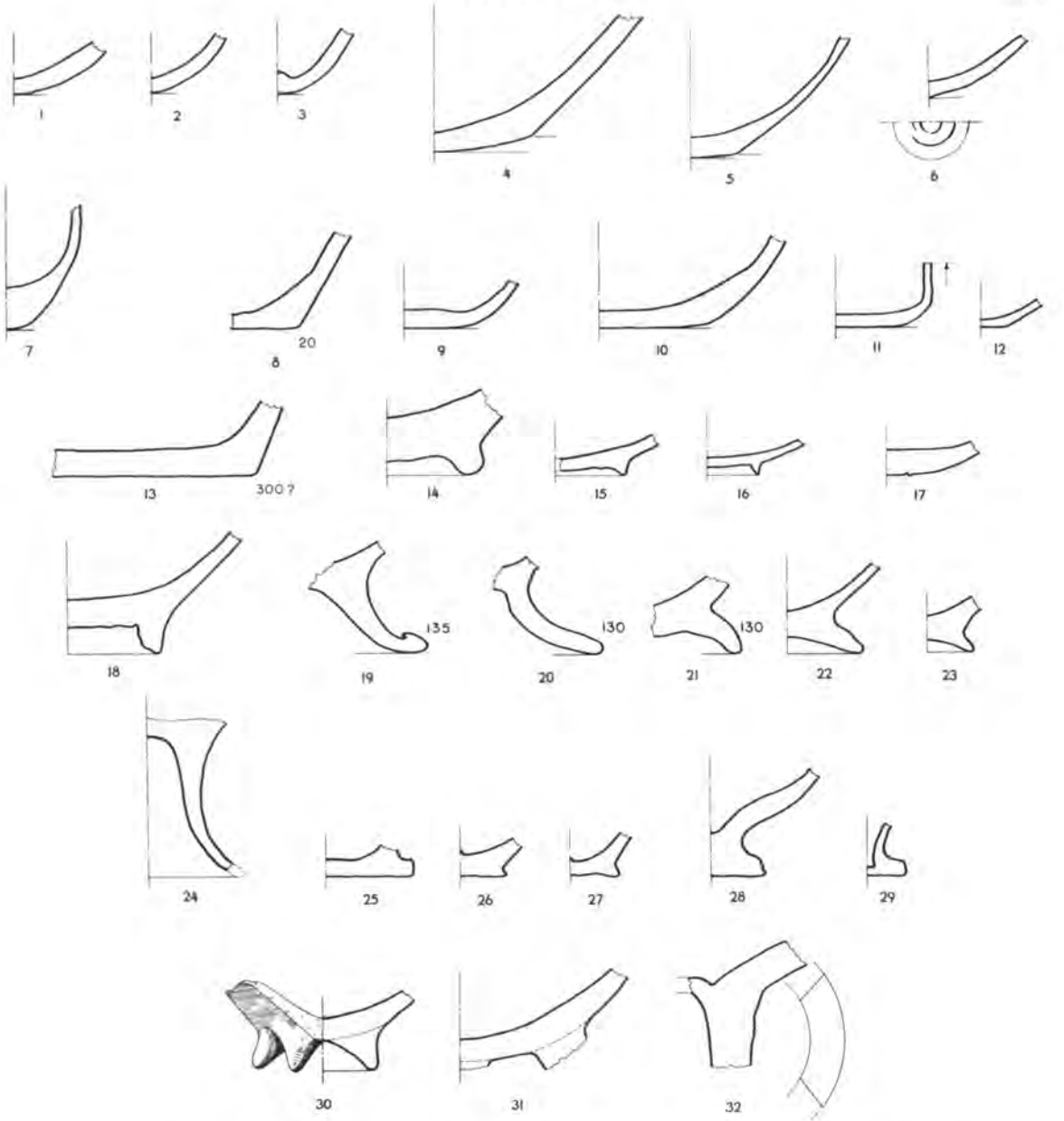

FIG. 214.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:3

which contained Phase G intrusions (see p. 228 and Table III). Narrower spouts with a slight bead at the lip (Fig. 213:16–17) are less usual. All of the available spouts are wheelmade save one which is rather crudely handmade (Fig. 213:19). There are several very small sherds with sievelike perforations.

The field samplings suggest that some of the Phase G Plain Simple Ware bases might be very useful criteria for subdividing the phase. There are, however, an insufficient number of base sherds available (*ca.* 300) to do more than suggest what the subdivisions might be.

Rounded bases (Figs. 203:4, 207:3, 214:1–3) seem most characteristic of the beginning of the phase and continue at least into the middle. Of those shown on Figure 214, Nos. 1 and 3 seem to be tool- or string-cut, and No. 2 is wet-smoothed. No. 3 has an unusual inner projection. An interesting type (Fig. 214:4–7) suggests that a rounded or pointed base was either tool- or string-cut to make the bottom almost flat. Such bases are quite abundant on the first

two floors but seem to disappear thereafter. They are certainly associated with the carinated cups (cf. Fig. 203:5) and may have been usual for bowls with molded lips (cf. Fig. 205:5–16). String-cut (Fig. 214:8–9, Pl. 28:11) and smoothed (Fig. 214:10–12) flat bases occur throughout the phase, though neither type is very abundant on the earliest floors. The smoothed type is most common toward the end of the phase, and some string-cut bases show at least partial smoothing. The flat bases of large jars and platters are usually ash-laid (Fig. 214:13, Pl. 27:1; see p. 265).

Ring bases occur in strong proportions throughout the phase. The approximate normal range is indicated by Figure 214:14–16, though large examples like No. 14 are rare. Ring bases were probably more common on smaller bowls (cf. Fig. 203:7). There is one example of a very low incipient ring (Fig. 214:17). In several cases the ring seems to have been at least partially pinched into shape with the fingers (Fig. 214:18). High ring (or low pedestal) bases (Fig. 214:19–23) make a relatively strong appearance on the earliest floors and continue in moderate numbers throughout the phase. At least some were wheelmade separately (see Pl. 28:13). Three high-pedestal sherds come from the earlier floors (Fig. 214:24).

A few flat button bases (Fig. 214:25–27) appear toward the end of the phase, and flat goblet-type bases (Figs. 207:7–8 and 214:28–29, Pl. 28:14) are available from the middle floors. Both types are string-cut with the exception of one smoothed example (Fig. 214:27). Six tripod bases appeared, most of them on the early floors (Fig. 214:30). A sherd (Fig. 214:31) which is seemingly from the base of a fair-sized bowl has two leg stumps, whose positions suggest that there could have been four legs instead of three. There is a unique example (Fig. 214:32) of what was certainly some form of pierced pedestal base (from JK 3:18).

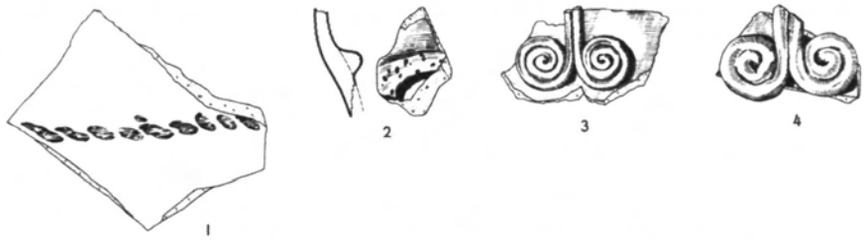

FIG. 215.—PHASE G. PLAIN SIMPLE WARE. SCALE, 1:3

One or two of the body sherds show impressions of cord (Fig. 215:1). A jar shoulder sherd from JK 3:19 has remains of a raised plastic "snake" with impressions on its body (Fig. 215:2, Pl. 27:14). Three sherds with applied double plastic spirals come from JK 3:17 and two from TT 20 XIV 1 (Fig. 215:3–4, Pl. 27:15).

SIMPLE WARE WITH ORANGE-BROWN SLIP AND BURNISH

(0–1% of total selected sherd bulk)

There was a very rare and sporadic occurrence (8 sherds and a restorable platter) of sherds in clay not megascopically distinguishable from that of the Plain Simple Ware but with orange-brown slip and burnish. The only forms indicated are platters (Figs. 216 and 217:1, 6, Pl. 32:13) and bottles (Figs. 217:2–5, Pl. 32:15). The reconstructible platter (Fig. 216, Pl. 32:13) has slip only on the inside and over the outer lip but is burnished all over except on the outer bottom. The sherd shown in Figure 217:1 has slip as well as burnish all over. The inner surfaces were first ring-burnished (by hand) and then burnished in an open crosshatch pattern (see Fig. 217:6). The bottle sherds have slip and burnish extending from within the neck over the whole outer surface. The burnish marks are more or less continuous: ring strokes (done by hand) on the inner and outer lip and vertical strokes over the rest of the outer surface. The burnishing was probably done before the slip was sufficiently dry, especially on three

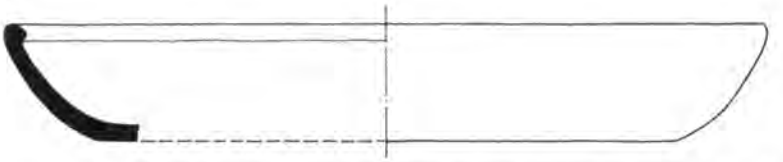

FIG. 216.—PHASE G. PLATTER (x3033) OF SIMPLE WARE WITH ORANGE-BROWN SLIP AND BURNISH. SCALE, 1:5

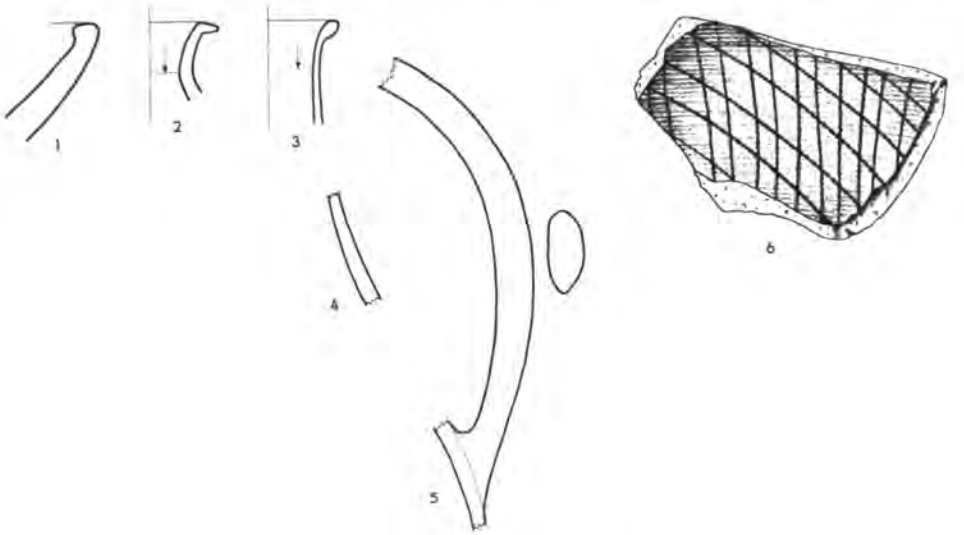

FIG. 217.—PHASE G. SIMPLE WARE WITH ORANGE-BROWN SLIP AND BURNISH. SCALE, 1:3

sherds which seem to be parts of one "Syrian bottle" (Fig. 217:3–5), for the surfaces are vertically streaked.

A few unclassified sherds seem typologically quite similar to this group (see p. 292). They were not placed here because their clay is different. It is, of course, possible that the megascopic similarities between the clay of the small slipped-and-burnished group and that of the Plain Simple Ware are fortuitous.

RESERVED-SLIP WARE

(3–8% of total selected sherd bulk[6])

This quite characteristic Phase G pottery was present in fair quantity on the earliest floor. Its *floruit* is early to middle Phase G, after which it appears in smaller proportion, lasting (in somewhat degenerate form) into Phase H.

For the most part the clay is indistinguishable from that of the Plain Simple Ware. The pots of this main group were wheelmade and generally completely oxidized to a light orange or greenish-buff color. The clay seems to have a rather fine sandy base; medium or coarse mineral inclusions are rare. The coloration of the wet-smoothed surface is much the same as that of the paste, although perhaps somewhat lighter and less intense. Approximately 15% of the sherds are of a relatively sandless clay with characteristic heavy straw tempering. It is not certain that all of these sherds represent wheelmade pots. They are fairly brittle and tough but usually not completely oxidized, the central core remaining gray. The wet-smoothed surface is generally light orange-brown buff and shows numerous straw pits. The earliest sherd

[6] This proportion would be increased by *ca.* 4% if the sherds of Incised and Impressed Ware (see p. 277) which have reserved-slip decoration were included.

of this subgroup appeared in JK 3:19, and there was sporadic appearance of such sherds on through the phase and into Phase H.

The special surface treatment of both the main group and the sandless subgroup involves application of a slip over the entire outer surface and somewhat over the lip; this slip was then wiped off, theoretically with the potter's finger, or reserved in oblique radial lines from bands about the neck (see Fig. 218, Pls. 29 and 85:1, 7). In some cases bands about the lower body intersect the oblique radial lines (Fig. 218:11). In the late Phase G and Phase H examples, the radial lines may be more vertical (Fig. 218:7) than oblique. Actually it is not certain that all of the examples were finger-wiped, though some certainly were (Fig. 218:11–12), for some of the reserved spaces are too narrow to have been wiped with a finger (Fig. 218:5). There are also cases where the reserved spaces are not only narrow but do not even have a wiped appearance (Fig. 218:6), the implication being that the slip was sometimes painted on in patterns imitating the reserved-slip treatment. In 54% of the sherds the slip appears to be a finer solution of the same clay as the body clay (self-slip or purposely applied?), while the remaining 46% have opaque white to yellowish-buff slip (probably a solution of lime or of lime and clay). The straw-tempered sherds almost without exception have the whitish slip, and those which seem to have been painted rather than actually reserved are also most likely to have it. Both types of slip appear on the earliest Phase G floor, but the whitish type seems more common at the end of the phase and is usual in Phase H.

A random series of 93 sherds from JK 3:19 was studied, since this was considered typical material by Braidwood. All of the pieces are made of the *serpentine* type clay. Four-fifths of them have a fine granular texture in cross section, while the remaining fifth are much finer-textured. This is a well fired group, the best so far, for 84% are oxidized throughout and the remainder show surface oxidation. The slip coating used in decoration is 0.1–0.3 mm. thick and contains much finely flaked muscovite. It is possible that the slip was made from very well levigated *serpentine* clay. This pottery is clearly wheelmade.—MATSON.

The forms indicated by the sherds are almost without exception large jars (Fig. 219:1–2, Pl. 29:1–2). There are, however, several bowl sherds from JK 3:20, the earliest Phase G floor (Fig. 218:1–2). The jar profiles are essentially the same as those of the Plain Simple Ware normal jars (pp. 268 f.) save that the bases do not seem so broad (cf. e.g. Fig. 203:11); also the bases are smoothed rather than ash-laid. The approximate normal in rim sections is shown by Figure 218:3; the lip diameters of the two complete jars (Fig. 219:1–2) are slightly smaller than normal. Figure 218:8 illustrates a shoulder which is more sharply sinuous than usual. Figure 218:9 (Pl. 29:8) shows a typical base profile; in this case the reserved-slip decoration continues over the bottom as well as on the lower body. Several wheelmade drooping cylindrical spouts appeared on JK 3:20; they were fixed on the shoulders of jars of normal profiles (Figs. 218:10 and 219:3, Pl. 29:4). No other secondary features are available. It will be apparent in the discussion of the Incised and Impressed Ware that the reserved-slip technique was used, in conjunction with incised or impressed decoration, on a few other types of profiles.

The most usual type of decoration consists of reserved oblique radial lines and some elaboration in the way of bandings (Fig. 219:1–3). The bowl sherds (Fig. 218:1–2) show simple more or less oblique radial lines. Figure 218:3–6 (also Pl. 29:9) show normal types of rim and shoulder treatment; the simple band on No. 4 appears to have been painted rather than reserved; No. 5 may have been painted, and No. 6 certainly was. More vertical radial lines appear (Fig. 218:7; from JK 3:14) toward the end of Phase G and in Phase H. Figure 218:9 (Pl. 29:8) shows reserved banding (actually a compact spiral done by returning the pot to the wheel) of the lower body and the base (seen also in Fig. 219:2 and Pl. 29:1, 8). The two body sherds (Fig. 218:11–12, Pl. 29:3) are typical finger-wiped examples.

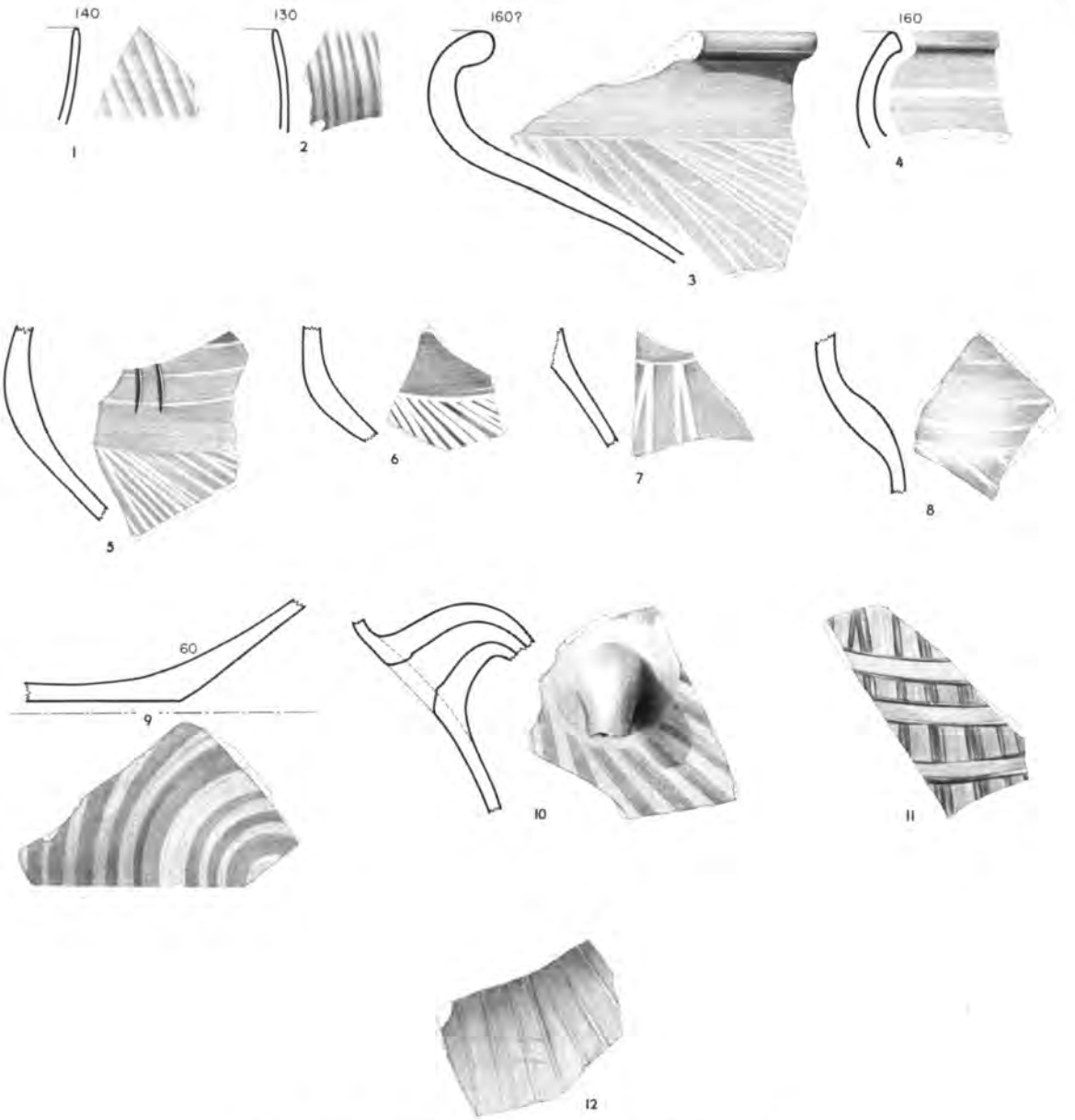

FIG. 218.—PHASE G. RESERVED-SLIP WARE. SCALE, 1:3

Simple incisions such as are indicated by Figure 218:5 are evidently not usual, although the reserved-slip treatment is fairly common on the Incised and Impressed Ware.

INCISED AND IMPRESSED WARE

(5–10% of total selected sherd bulk)

This ware tends to be concentrated in early and middle Phase G, although examples do appear on the later floors and there are a few sherds from Phase H context (see p. 356).

The clay corresponds exactly to that of the Plain Simple Ware in megascopic examination (cf. p. 265). Despite a fair number of examples with reserved-slip as well as incised or impressed decoration and a few new profiles, this ware is classified separately only for the purpose of emphasis. The sherds give a general impression that the vessels were a bit more carefully made than the normal run of Plain Simple Ware. It also appears that there is a fairly large krater-

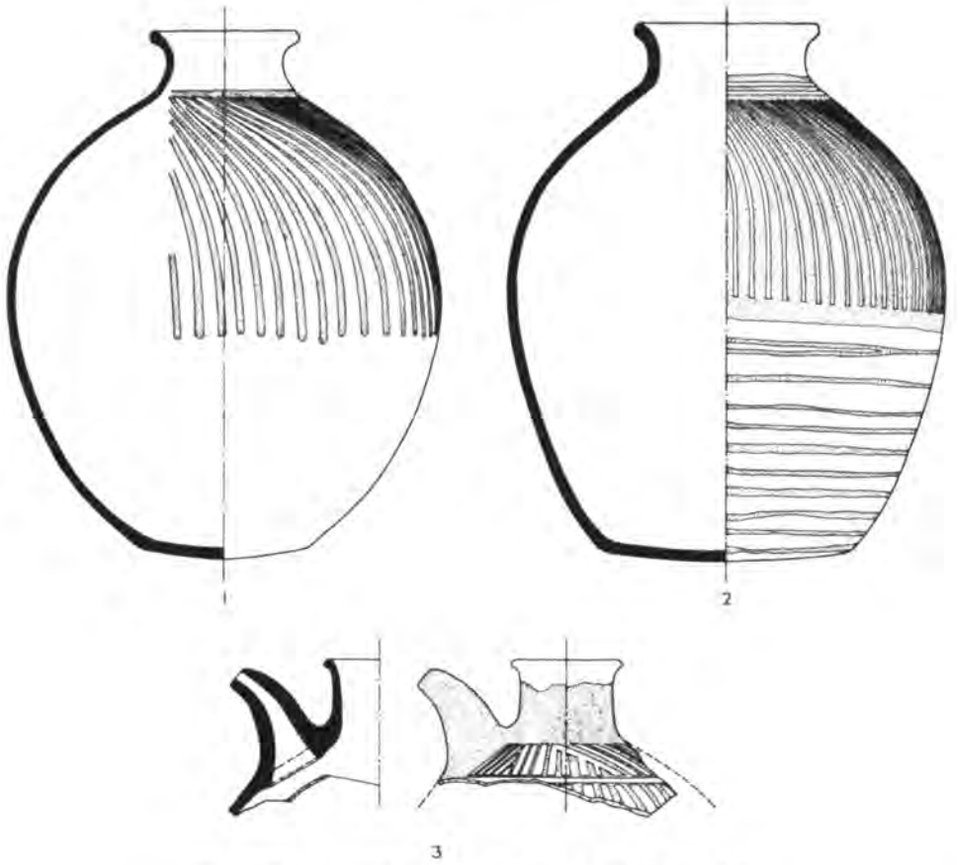

FIG. 219.—PHASE G. RESERVED-SLIP WARE. SCALE, 1:5

like profile, probably with more or less sharp shoulder (Figs. 220:2–3, 26[?], 27 and 221:14[?], 22), which does not seem common in Plain Simple Ware and is not represented in Reserved-Slip Ware. The one hole-mouth sherd (Fig. 220:1) may be unique in Phase G (see p. 268), and a thin-walled jar with thickened lip (Fig. 221:9) is not accounted for with certainty in Plain Simple Ware.

The sherds illustrated in Figures 220–21 are arranged according to design types and, within this framework, according to profiles. The design types, in order of frequency, are as follows:

1. Impressed circles and semicircles (Fig. 220:1–16 and Pls. 32:3–4, 85:4)
2. Incised wavy bands (Figs. 220:17–28 and 221:1–4, Pl. 32:1, 5)
3. Incised crosshatched bands (Fig. 221:5–10, Pl. 32:7)
4. Incised chevron bands (Fig. 221:11–13, Pl. 85:3)
5. Unique impressed or incised motifs (Fig. 221:14–21, Pl. 32:10–11)
6. Combinations of motifs (Fig. 221:22–25, Pl. 32:2)

Circular and semicircular impressions seem to appear mainly on sherds of typical Phase G jar forms (Fig. 220:5–7; cf. Fig. 210:1–4). They are mainly in bands, though odd cases with oblique lines of impressions also appear (Fig. 220:11, 16).

Incised wavy bands are rarely inclosed by straight bands (Fig. 220:19) but are used alone most frequently as single, double, or triple shoulder bands. None of the sherds with double or triple wavy bands are long enough to show an attempt to set the waves in phase (but see Fig. 221:3). This type of decoration seems to be more commonly applied to bowls and more open jars than is the impressed circle, although it does occur on normal Phase G jar shoulders

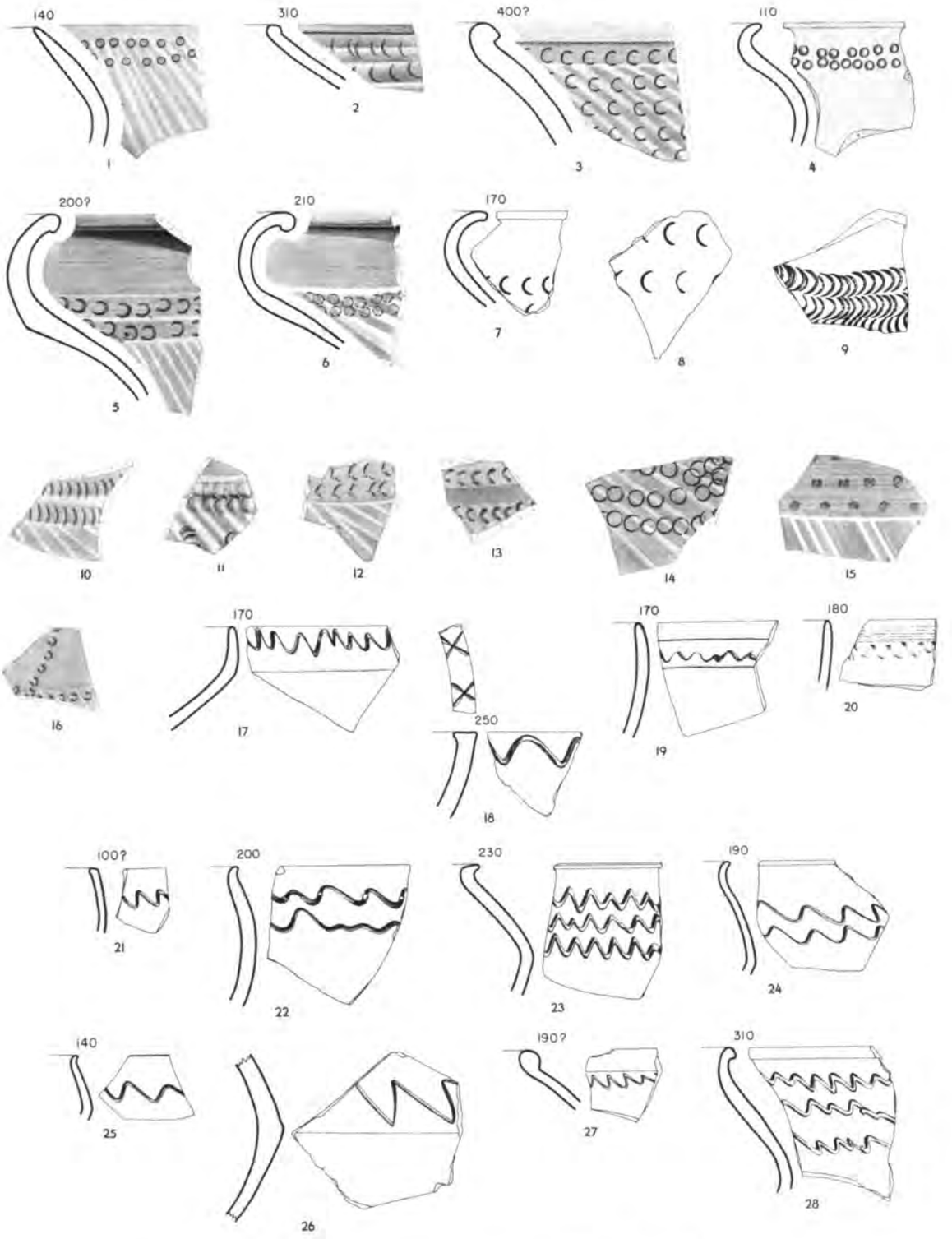

FIG. 220.—PHASE G. INCISED AND IMPRESSED WARE. SCALE, 1:3

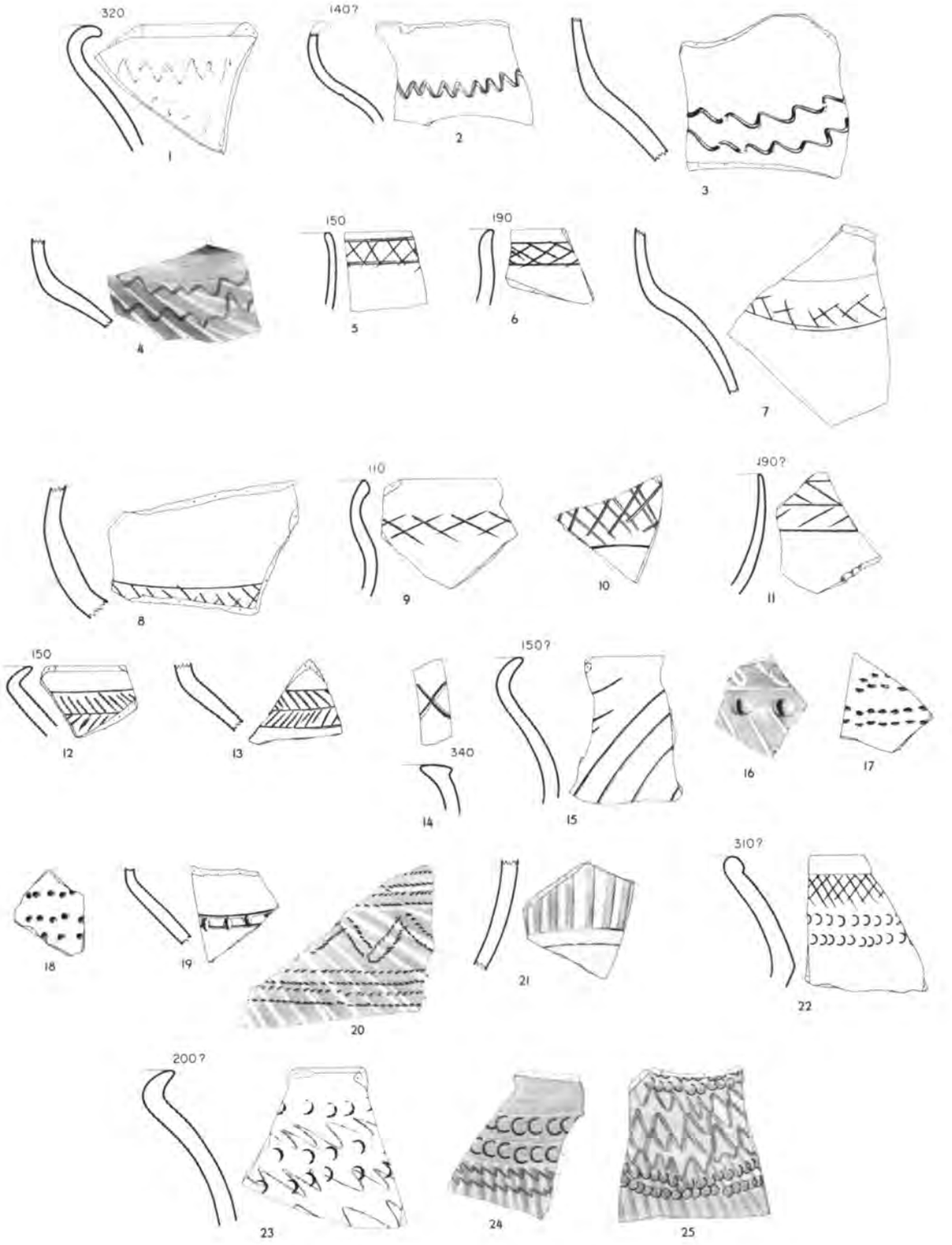

FIG. 221.—PHASE G. INCISED AND IMPRESSED WARE. SCALE, 1:3

(Fig. 221:3–4). There are several interesting cases (Figs. 220:20 and 221:1, 4) where the incision is very light and amounts to little more than a smearing of the surface layer.[7] The one complete pot, with a single wavy band (Fig. 222, Pl. 32:1), can only be assigned to Phase G typologically, since it comes from Dhahab (see pp. 259 and 350, n. 2).

Incised crosshatched bands, usually inclosed by straight bands, appear on bowls and jars. A doubled effect in the crosshatching (Fig. 221:10, Pl. 32:7) is unusual.

Chevron bands, inclosed by straight bands, are rare and seem to refer only to smaller bowls and jars.

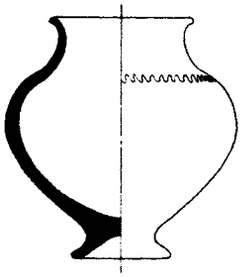

FIG. 222.—PHASE G. INCISED JAR (D3) FROM DHAHAB. SCALE, 1:5

The unique motifs include linear incision, finger- or stick-poked bands, a combination plain and poked band, and a rather elaborate inclosed double zigzag which seems to have been done with a long comb or with a roulette (Fig. 221:20, Pl. 32:10). One sherd is classified here for want of a better place (Fig. 221:21, Pl. 32:11); it seems to be rather deeply pared and has a vertically fluted effect.

Combinations of motifs consist of impressed circles and semicircles with incised wavy or crosshatched bands.

MULTIPLE-BRUSH PAINTED WARE
(17–22% of total selected sherd bulk)

This ware first appears on the second earliest Phase G floor in JK 3 (floor 19). It increases in proportion until it slightly surpasses the Plain Simple Ware by the time of floor 15. Thereafter, it declines in proportion to the Plain Simple Ware but is second in frequency, and it continues into Phase H.

The clay is certainly the same as that of the Plain Simple Ware. The pots were wheelmade and well fired. Unoxidized cores are rare, while an approximately equal number of exceptional sherds approach the greenish-gray color of overfiring and have a vitrified appearance. The normal paste color is orange-buff, neutral buff, or light greenish buff. About 65% of the sherds are of fine texture, this proportion being slightly higher than in the Plain Simple Ware (see p. 264). Cases of obviously intentional slip are very rare; the surface is generally wet-smoothed, although some sherds have self-slip. The surface coloration follows that of the paste but is slightly lighter in tone. Burnishing, which is open vertical or crisscross, occurs on the outer surface of *ca.* 5% of the sherds. It was done before the pots were painted. The paint is evidently an ocherous solution, usually rather thin; its color ranges from light red-orange to greenish black or dead black, being normally dark orange-brown (Pl. 85:2).

A sampling from JK 3:14 fl. was studied as representative of late Phase G at Judaidah. With one exception, the sherds (which included Plain Simple Ware as well as the decorated wares) are of the *serpentine* type paste. Many of the Multiple-Brush Painted Ware sherds resemble those of the small

[7] This feature should be recalled in conjuncton with the Smeared-Wash Ware of Phases I–J. It is important to note that one of the above-mentioned cases (Fig. 220:20) represents a high-sided thin-walled bowl which very closely approaches the goblet form. This particular sherd comes from the uppermost Phase G floor (JK 3:12).

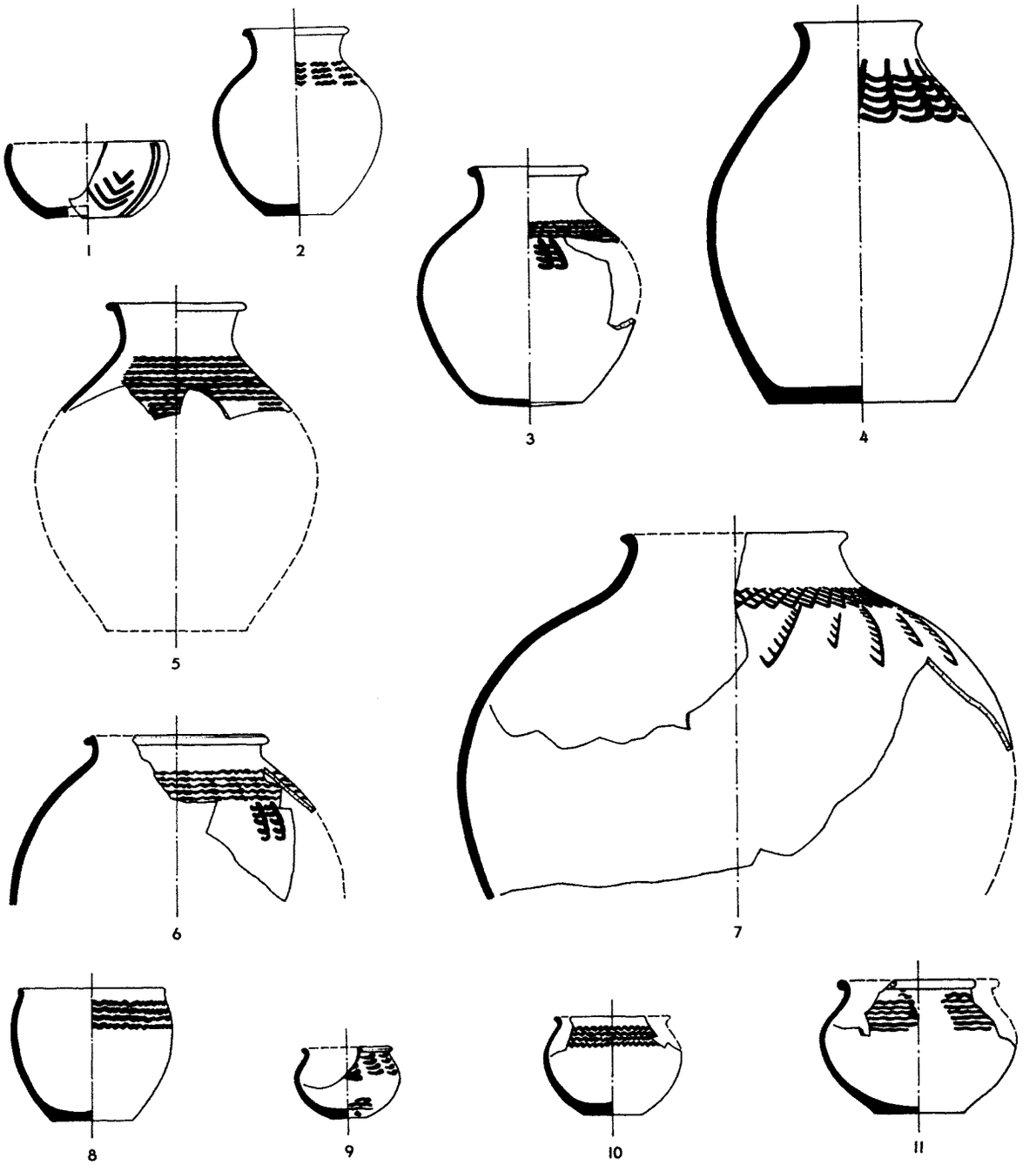

FIG. 223.—PHASE G. MULTIPLE-BRUSH PAINTED WARE. SCALE, 1:5

high-fired bowls of the Phase F Smooth-faced Simple Ware in quality, paste, and size, but they are not so consistently high-fired. The clay was well levigated. The paint is of the iron type used in the earlier phases. The painted group is more finely textured than the Reserved-Slip Ware, the difference no doubt being due to the relative sizes of the vessels of the two wares. A very few sherds contain straw impressions and may be carry-overs from Phase F. There is a very marked continuity, aside from decoration, in the pottery manufactured in Phases F and G.—MATSON.

The profiles are within the range normal for Plain Simple Ware. Bowls (Figs. 223:1, 224:1) are rare, it being evident that the potters felt more inclined to paint shoulders of taller jars,

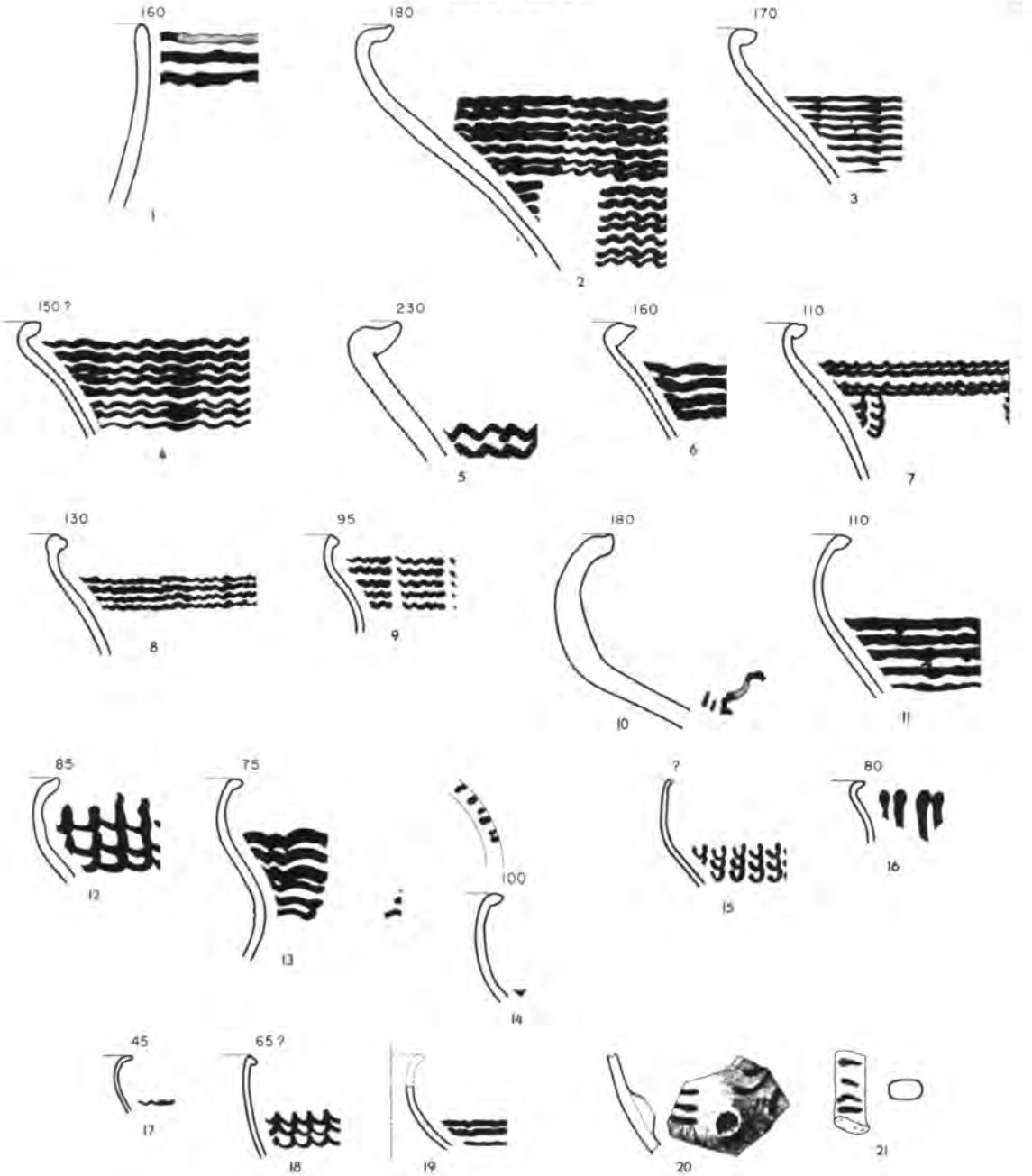

FIG. 224.—PHASE G. MULTIPLE-BRUSH PAINTED WARE. SCALE, 1:3

goblets, and kraters.[8] Low-collared jars (Figs. 223:6 and 224:2–9, Pl. 30:2) are more numerous in this ware than in the Plain Simple Ware. A tendency to model the lip is observable (see esp. Figs. 223:6, 224:5–9). There was evidently no very strict distinction between lower and higher collars, as may be seen by comparing Figure 223:7 with more typical higher- and lower-collared forms. The more normal high-collared forms (Figs. 223:2–5 and 224:10–14, Pls. 30:5 and 31:1) differ in no essential way from those of the Plain Simple Ware. Bottles are evidenced only by sherds (Fig. 224:15–20). Were it not somewhat warped by overfiring, one sherd (Fig. 224:18) might have been suggested as belonging to a pitcher with pinched pouring lip.

[8] A single sherd (Fig. 225:12) shows paint on the inner surface of a more open type of vessel.

Fairly tall and slightly incurved cups or goblets become somewhat common in middle and late Phase G (Figs. 223:8 and 225:1–8, Pl. 30:1). Some have rather plain lips (Fig. 225:1–3), while the others show more marked outrolling of the lip.

Small to medium-sized kraters with outrolled lips (Figs. 223:9–11 and 225:9—11, Pl. 30:3, 6) are fairly numerous.

The bases are characteristically flat (see Fig. 223). Two unique base sherds are shown (Fig. 225:12–13), with painted decoration on the inside and the outside respectively. No secondary features are known with the rare exception of handles (Fig. 224:20–21).

The characteristic painted motifs obviously depend on the use of more than one brush at a time. Normal multiple wavy bands, for example, consist of from two to eight elements, each

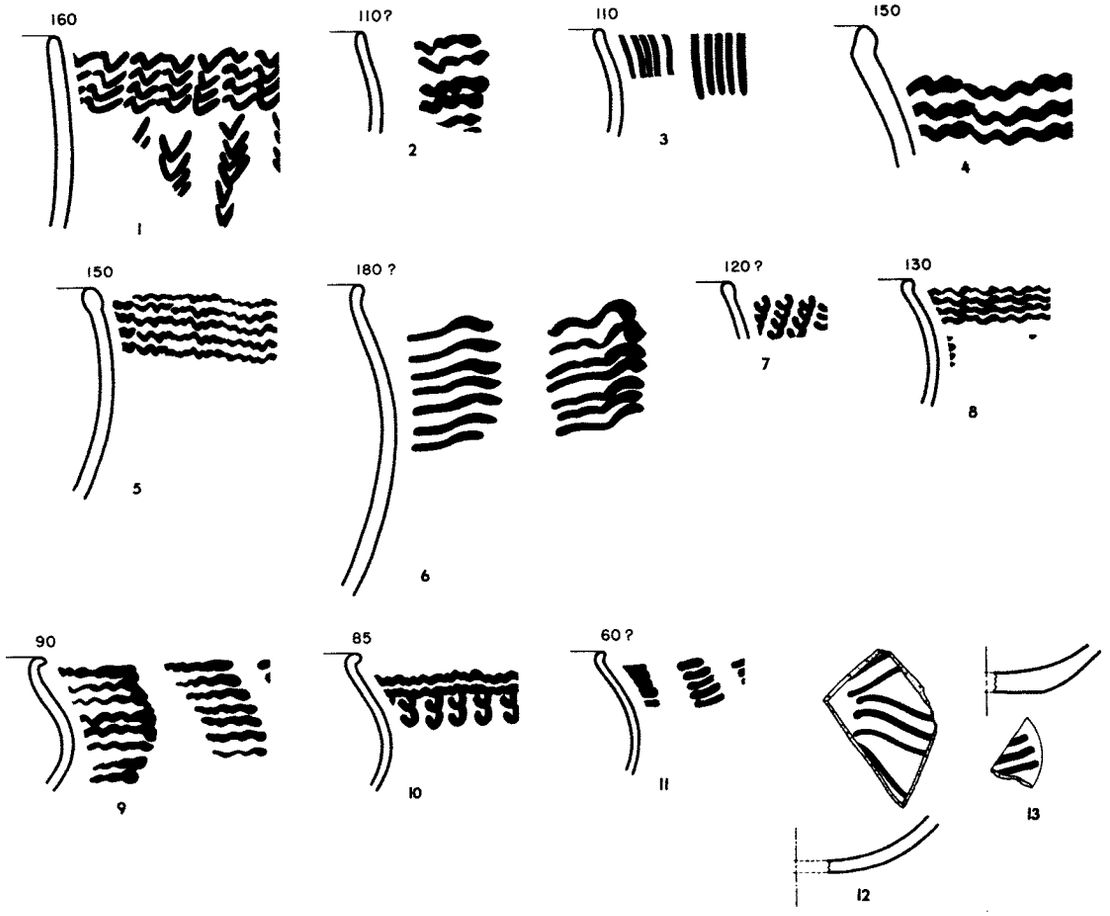

FIG. 225.—PHASE G. MULTIPLE-BRUSH PAINTED WARE. SCALE, 1:3

element waving in phase with its neighbors. Most frequently there are four or five elements in a group, but even seven are not unusual. We have found experimentlly that it is very difficult to grasp more than four individual brushes at once and are convinced that most of the motifs must have been applied with a device made purposely with four, five, or more individual brushes (see p. 186, n. 7). The hallmarks of the multiple brush are the following:

1. The individual elements of multiple bands and lines are always in phase with one another (see Pls. 30, 31:1–13, 85:2). This feature is most clear in wavy bands; it is possible to hold the device obliquely in a variety of ways so that the crests or troughs of the waves need not be in a vertical line. It may be noted that a considerable amount of irregularity from perfect in-phase execution occurs. Such irregularity may depend on the length of the bristles of each

individual brush in the device, the firmness with which each brush is set into the device, the distances between the individual brushes, the way in which the device is held (vertically or obliquely), and so on.

2. The concentrations of paint resulting from newly loaded brushes appear concurrently in all elements of a group. This feature likewise is especially clear in wavy bands (see Pls. 31:1, 85:2). The new load of paint generally slightly overlaps the end of the previous stroke to form continuous multiple wavy bands; there are, however, numerous cases of discontinuous bands (see Pl. 30:3, 10).

3. A variety of simple motifs such as V's (see Fig. 223:1, Pl. 30:4) and check marks (see Fig. 223:7) seem to result quite naturally from use of the device.

The device was certainly in use in the ʿAmuq as early as Phase E (see p. 186), but we first became aware of it in studying the Multiple-Brush Painted Ware of Phase G. Its use is most easily comprehended from examination of sherds of this ware, where it appears to be almost mechanically simple. Mrs. Allen prepared a chart (Fig. 226) of small drawings covering the available basic repertoire of designs in the Phase G Multiple-Brush Painted Ware, with the following general statement.

> The most immediately striking thing about the multiple-brush sherds, especially when seen in bulk, is the characteristic sameness of their painted decoration. Whether because the multiple brush is in a sense a mechanical device, so that its user tended toward merely mechanical repetition, or because there was a real poverty of designing skill, the impression is one of uninspired monotony. We can imagine motifs and combinations of motifs—short lines with long lines, curved lines with straight lines, or plain patterns—which seem tempting and almost natural to the use of the multiple brush; actually, almost no combination of motifs was attempted and only two motifs were at all generally used.
>
> It is on these two motifs that the main divisions of the chart (Fig. 226) are based. Group I contains designs consisting of wavy (to straight) horizontal lines; Group II contains designs of check marks; Group III contains motifs which are isolated and miscellaneous. Although equal space is given to Groups I and II, the motifs of Group I are numerically much the more popular; if the chart showed proportionate popularity, Group I would occupy about four-fifths of the space, Group II about one-fifth, and Group III the very small remaining space. In Groups I and II the rows (*A*, *B*, *C*) show the three ways in which the motifs were combined into designs, in the order of popularity.[9] In both groups Row *A* shows the continuous border, Row *B* the discontinuous border, and Row *C* the continuous border with discontinuous pendent motifs. The individual designs in each row, arranged from left to right in approximately the order of their popularity, are intended to give a general picture of the variations in spacing, weight of line, number of brushes used, and care and skill of painting.
>
> The motif of Group I, in its most typical form (Nos. 1 and 6), is a multiple wavy band drawn with a deliberate hand movement, the very opposite of a free-flowing arm stroke. If we assume that the painting was done with the right hand, the pots were apparently held with the mouth facing the painter as he worked, so that, as a general rule, the thick heads of the wavy lines, where a fresh application of paint was started, appear to our right. The paint sometimes continues in uniform intensity to the end of the stroke; in a few cases (see Fig. 224:3, 11) it was even heavy enough to run, but characteristically it soaked in heavily at the beginning of the stroke and thinned out rapidly, giving a pleasant tonal variation to the otherwise monotonous borders. The designs of the first group are quite homogeneous; most of the variations shown within the three types occur very infrequently, and it should be remembered that the first design in each row (Nos. 1, 6, 10) represents by far the most common appearance of its type. Examining the designs of this group as a whole, we are able to see readily how they were composed, that is, in the most simple and obvious fashion, with the same number of brushes and the same kind of motifs used throughout the painting of one pot. We can also trace the

[9] Row *A* is unquestionably the most popular; Rows *B* and *C* may be in the wrong order. Many of the small sherds are ambiguous; for example, a discontinuous border might belong to Row *B* or it might be the lower part of a Row *C* design.

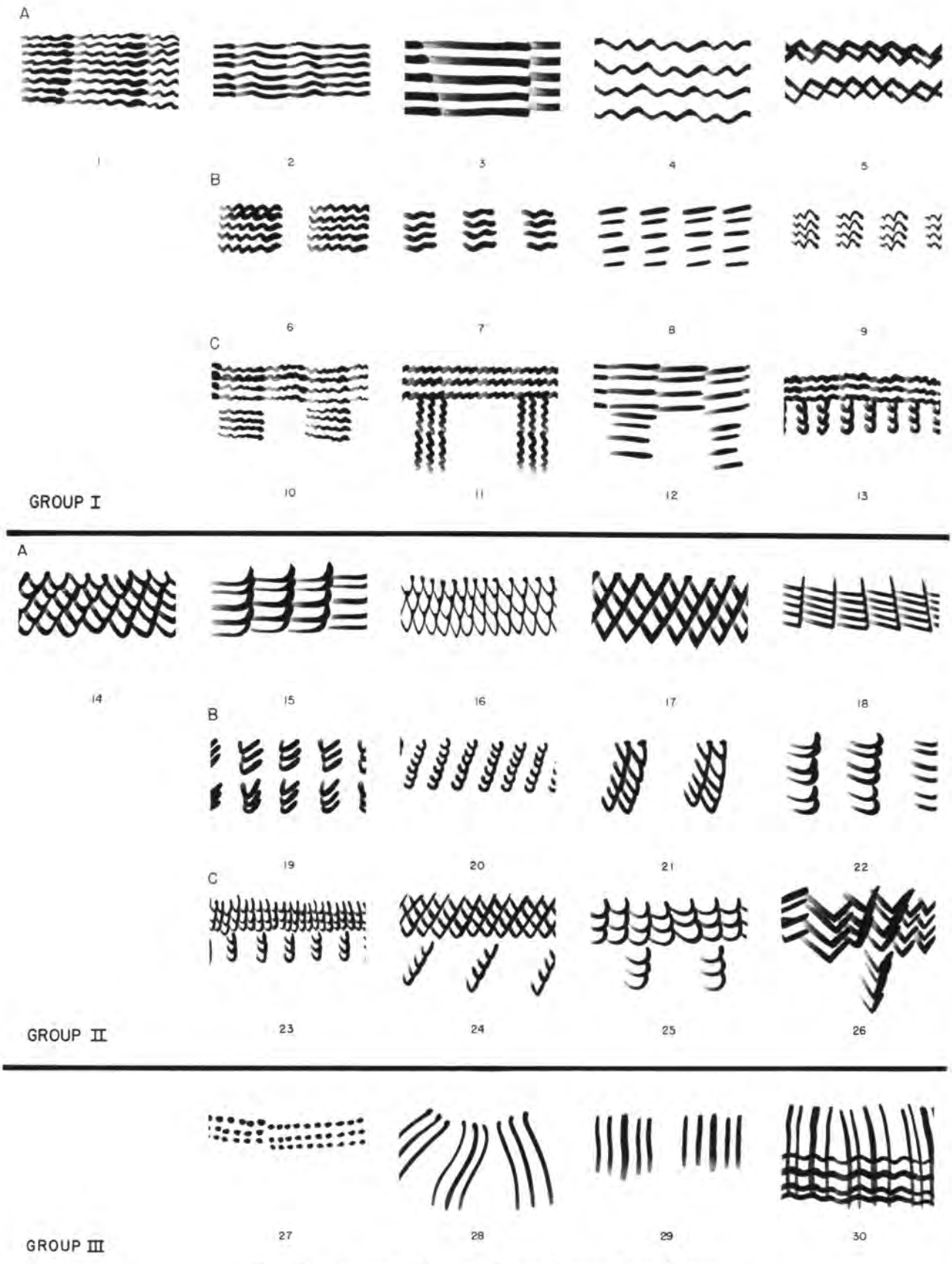

Fig. 226.—Phase G. Multiple-Brush Painted Ware Motifs

modification of the basic motif, from the deliberately executed waves of No. 1 to straight dash lines through Nos. 2, 3, and 12 or to true zigzags through Nos. 4 and 5. No. 13 may be considered as transitional between Groups I and II, being one of the very few cases where motifs from the two groups are combined.

The motif of Group II is a group of check marks, which may vary from a rounded U-shape to a sharp V-shape, and in its most characteristic appearance the checks are lined up vertically or diagonally (Nos. 14 and 15) to make an imbricate pattern. In this group as a whole the range of variation in the size and shape of the motif and in the care exhibited in drawing (none of these factors seems to have been related to the size or quality of the pot) is much greater than in Group I. The delicately drawn lines of No. 16, for instance, were most probably made with the multiple brush held almost perpendicularly to the pot, a position which is not easy to maintain and not at all common to the multiple-brush work.[10] The greater interest and preoccupation with the rendering which is apparent in this group, together with the difference in bulk of the two groups (Group I being about four times larger than Group II), suggests that the second motif was a more experimental form than the first and that it may in fact have been derived from the first (cf. Nos. 7 and 22). The variant designs of Group II follow in type and order of popularity those of Group I. The general picture is a little different in Group II, however, since not only the range but also the amount of variation is greater than in Group I; thus, while Nos. 14, 19, and 23 show the most characteristic appearances of the three design types, the designs following them are, proportionately, much closer to them in frequency of appearance than is the case in Group I.

The miscellaneous designs and motifs (Group III) are arranged in the order of their popularity. The type of free, wandering decoration (No. 28), represented by about six examples, was uniformly used on rather unusual and nicely made small pots. No. 30 is interesting as an instance of the general inflexibility and lack of experimentation which seems to have prevailed in the multiple-brush work. In its general effect it is quite close to Nos. 15, 18, and 25, and it is very much quicker and easier to make with the multiple-brush device; yet no more than three examples of it exist. All we can really say about the designs in this last group is that they represent very sporadic experiments within a limited and unimaginative tradition of designing.

Painted Ware Partially or Not at All Dependent on the Multiple Brush
(0–1% of total selected sherd bulk)

This group accounts for a very small number of sherds which are in no way different in clay and paint from the Multiple-Brush Painted Ware. It is possible that the proportion of burnished surfaces is higher here, and the burnish is attended by a slightly lighter surface coloration (self-slip?) and by less penetration of the paint. Two rim sherds which were broken off high on the collar (Fig. 227:2–3) may belong to vessels which had multiple-brush motifs. The designs on several sherds (Fig. 227:4–6, Pls. 31:14, 17 and 85:5) were probably done in part with a multiple brush, one (Fig. 227:7) may or may not have been painted with the aid of the device, and the rest (Fig. 227:1, 8–14, Pl. 31:16, 18) show no evidence of the device at all.

Whereas in the Multiple-Brush Painted Ware the decoration on a given pot was always made up of the same or closely related elements easily achieved by the multiple device, here the elements on one pot differ. They consist mainly of combinations of zigzag bands with plain bands. Wavy bands occur but seem less characteristic than the rather sharply drawn zigzags. An interesting design (Fig. 227:5–6, 8–9, Pls. 31:14–16 and 85:5), which makes use of dot-filled pendent triangles and diamonds, occurs sporadically from JK 3:18 into Phase H. The sherds indicate that it was applied on the shoulders of jars or large bottles of the form of the decorated "Syrian bottle" first recognized in Egypt.

[10] In general, the more nearly parallel the brush is held to the working surface, the heavier and more shapeless the line; the more perpendicularly the brush is held, the finer and more delicate the line. Most of the multiple-brush work was probably done with the brush held at an angle of *ca.* 30°.

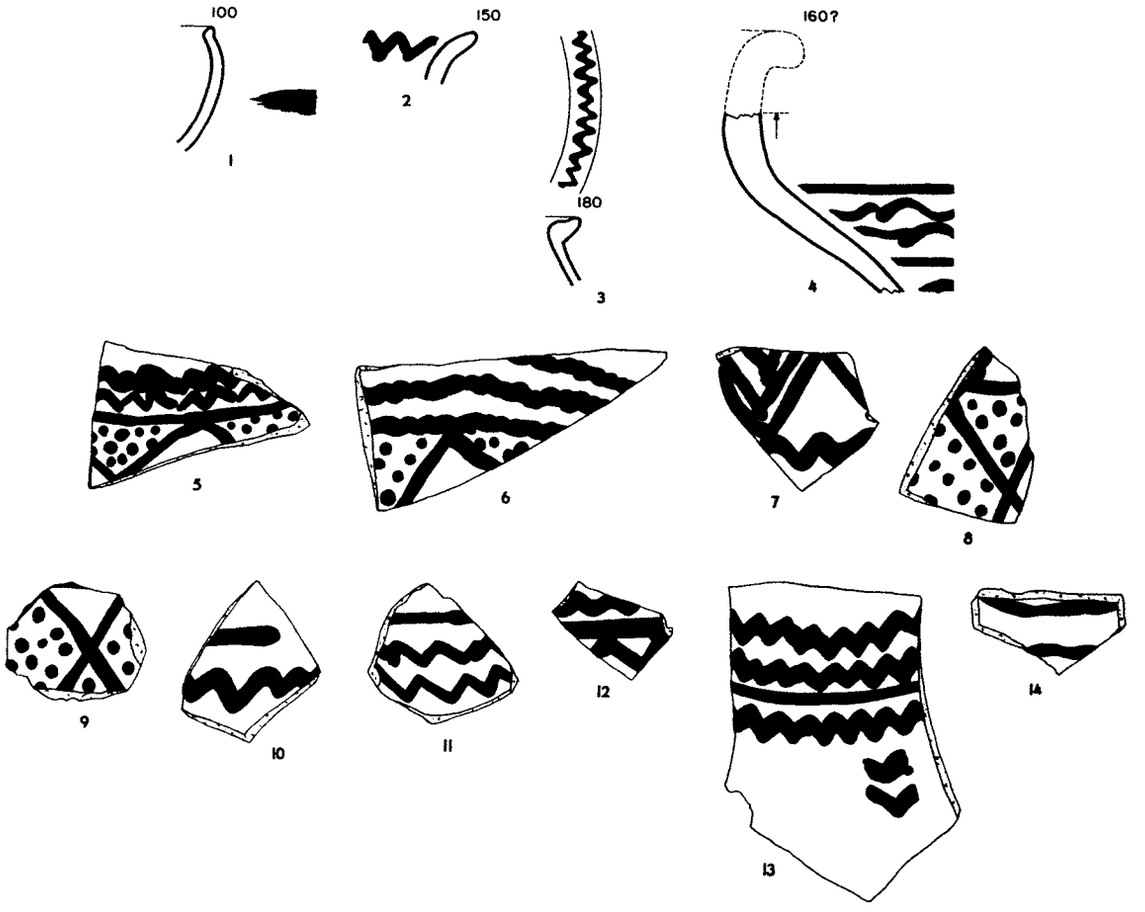

FIG. 227.—PHASE G. PAINTED WARE PARTIALLY OR NOT AT ALL DEPENDENT ON THE MULTIPLE BRUSH. SCALE, 1:3

COOKING-POT WARES

(11–16% of total selected sherd bulk)

The variety and distribution of the four cooking-pot wares indicate changing habits in the ceramic development within Phase G. The first two wares continue from Phase F, while the remaining two are new and closely associated.

Two main fabrics were recognized. One, made from the *serpentine* type clay, was used in Braidwood's first and second wares. The other is red-burning and contains coarse grains of calcite, the *calcite in red clay* type of paste that forms a minor group in the Phase A Dark-faced Burnished Ware (see pp. 49 f.). It is interesting to note that this paste is again being used for the manufacture of large utility vessels. It is probable that its use did not entirely die out in the intervening phases.—MATSON.

FIRST COOKING-POT WARE

(2–7% of total selected sherd bulk)

This ware is a continuation of the Coarse Cooking-Pot Ware of Phase F. It is the preponderant cooking-pot ware on the earliest three floors of Phase G but thereafter is rare and appears sporadically until the end of the phase. The clay is the same as that of the Phase F counterpart (see p. 242), and the same baglike profiles are present (Figs. 228:3[11] and 229:2, Pl. 25:1). However, the Phase G profiles also include jars with higher shoulders and more

[11] Shown beside the trimmed base of a large Plain Simple Ware jar (Fig. 228:4). The cooking pot contained the very fragmentary bones of an infant (x S 22), and the base was used as a lid (see p. 343).

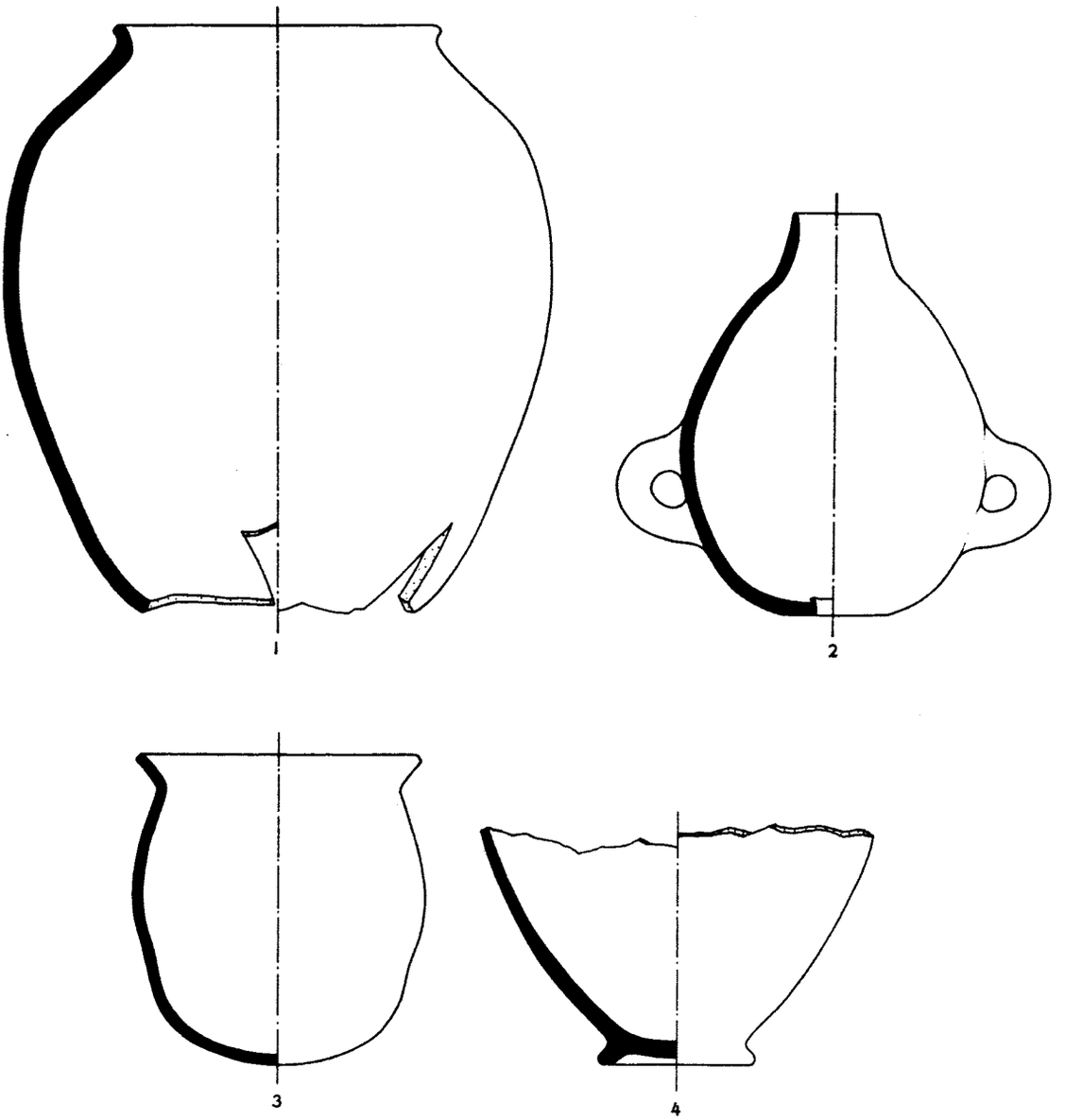

FIG. 228.—PHASE G. FIRST (*3–4*) AND THIRD (*1–2*) COOKING-POT WARES. SCALE, 1:5

markedly flared collars (Fig. 229:3–4, 6–9, Pl. 25:4–5), and incised or impressed decoration becomes the rule. Beginning with JK 3:19, there are a fair number of sherds with dull brown-buff surface coloration rather than the normal dull brown-black.

One crude bowl-like profile appeared (Fig. 229:1). There is also a very small sherd of a strainer spout (Fig. 229:5, Pl. 25:2), which was evidently a trough rather than cylindrical. The decoration appears on the shoulders of the pots. Usually it consists of a band of vertical zigzags, more or less compressed (Fig. 229:6–9, 11–15), but there are also simple pokes (Fig. 229:10, 14, 15) and vertical lines (Fig. 229:16–17) as well as two slightly more elaborate designs (Fig. 229:18–19, Pl. 25:3).

SECOND COOKING-POT WARE

(0–2% of total selected sherd bulk)

This ware is a continuation of the Well Made Cooking-Pot Ware of Phase F (pp. 241 f.). It is quite well represented on the earliest two Phase G floors but disappears thereafter. The

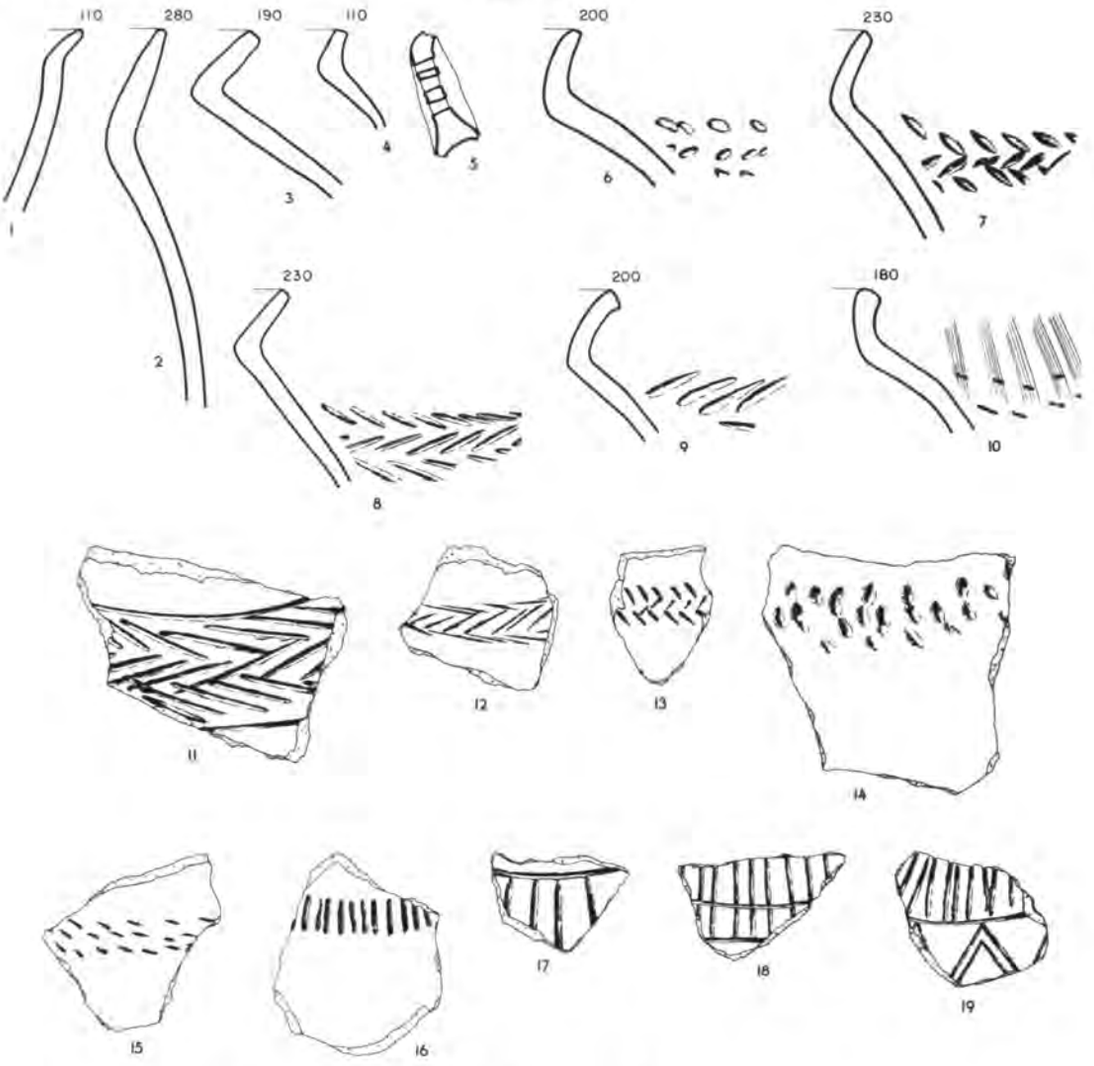

FIG. 229.—PHASE G. FIRST COOKING-POT WARE. SCALE, 1:3

megascopic appearance of the clay and the profiles (Fig. 230:1–4, Pl. 25:6–7) correspond very closely to those of the Phase F counterpart. As in Phase F, some of the sherds recall the Red Double-slipped Ware in that they have a thin red ocherous surface film as well as correspondence in profile (cf. Fig. 230 with Fig. 182:4–6). Two sherds (probably from the same pot) are exceptional in that the ocherous film is streaked on in rough bands (Fig. 230:4–5, Pl. 25:6).

THIRD COOKING-POT WARE

(3–8% of total selected sherd bulk)

This is the most characteristic Phase G cooking-pot ware; it first appears on the second earliest floor and is well represented thereafter until the end of the phase. It is a handmade product, with light to medium firing, which often leaves a trace of unoxidized gray in the central core. The paste varies from orange-buff to smoked brown-black, rather bright red-orange buff being normal. There is a medium to heavy concentration of coarse to very coarse mineral inclusions, largely white in color; a few are red-orange, gray, or black. There are also traces of fine chaff and a few shells. The sherds are brittle but tough, with irregular fracture. The surface coloration varies with that of the paste but is less intense, smoked red-orange buff

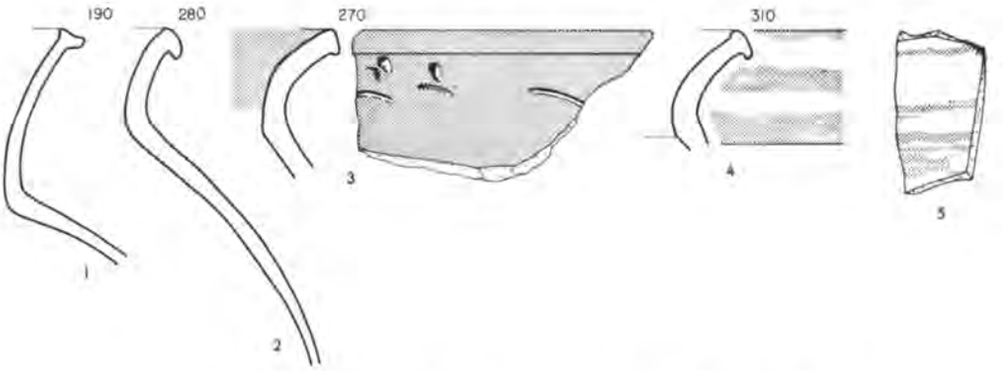

FIG. 230.—PHASE G. SECOND COOKING-POT WARE. SCALE, 1:3

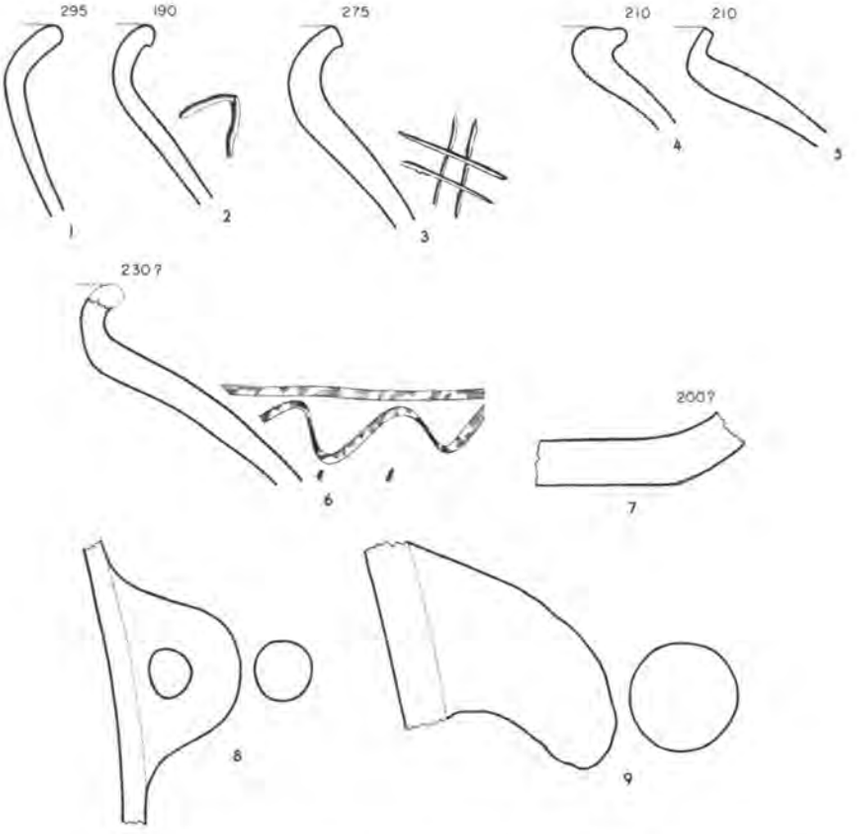

FIG. 231.—PHASE G. THIRD COOKING-POT WARE. SCALE, 1:3

being normal. The surface is wet-smoothed and more or less even; some straw pits are apparent (see Pl. 25:8–10).

The only forms are rather tall jars with low gently outflared collars (Figs. 228:1 and 231:1–6, Pl. 26:1). Flattened bases were used (Fig. 231:7). There is a complete example of a very unusual "funnel" jar (Fig. 228:2) with two loop handles and an orifice at each end. A few sherds of single-finger size loop handles were found (Fig. 231:8), and one great curved lug handle appeared (Fig. 231:9). A few sherds have a lightly impressed potter's mark on the shoulder (Fig. 231:2–3), and there is a single case of very shallow impressed decoration (Fig. 231:6).

FOURTH COOKING-POT WARE

(0–5% of total selected sherd bulk)

From the point of view of the profiles available this ware would seem little different from the Third Cooking-Pot Ware. The clay, however, appears to fire to a somewhat different color range. The pots were handmade. The firing was evidently lighter than that given the previous group, for the core is more normally incompletely oxidized. The paste ranges from neutral buff to gray-black, orange-brown buff with black central core being normal. The mineral inclusions resemble those of the third ware but are in medium to sparse concentration; chaff is often present, but shell is rare. The wet-smoothed surface is normally a dirty, more or less smoked, brown-buff. This ware is characteristically less tough than the third ware.

The jar sherds (Fig. 232:1–6, Pl. 25:11–12) indicate vessels with low outflared collars, not essentially different from those of the third ware. Some have a lightly impressed potter's mark on the shoulder (Fig. 232:1, 2, 5). Four sherds (Fig. 232:7–10) most closely resemble the Fourth Cooking-Pot Ware in clay, but they indicate atypical profiles. Bowl forms are not otherwise known in this type of clay in Phase G, and the loop handle is too thin and long to conform with the apparent normal (cf. Fig. 231:8). The painted decoration on No. 9 was seemingly applied with a multiple brush.

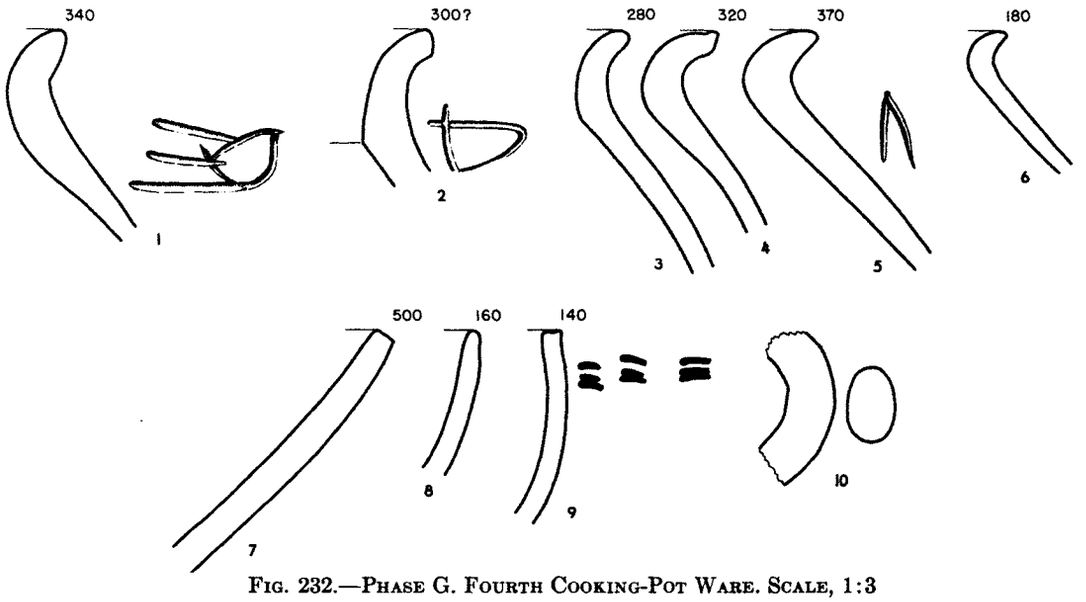

FIG. 232.—PHASE G. FOURTH COOKING-POT WARE. SCALE, 1:3

MISCELLANEOUS SHERDS

(0–2% of total selected sherd bulk)

These are mainly sherds which do not represent recognized major ᶜAmuq wares. There are, however, a few examples of the Red-Black Burnished Ware characteristic of Phases H–I (see pp. 358 ff.) as well as three assumedly intrusive sherds of the Phases H–I Brittle Orange Ware (see pp. 368 f.). The latter come from the uppermost Phase G floors and differ in no way from the bulk described under Phases H–I.

The main bulk of miscellaneous sherds are of various rather fine red-orange or orange-buff clays, usually quite brittle (but with finer and less granular texture than the Phases H–I Brittle Orange Ware). Six of these sherds recall the four unclassified red-orange buff sherds of Phase F (see p. 243, esp. n. 17), and they appeared from the earliest Phase G floor onward. A few sherds have an ocherous surface film and seem typologically quite similar to the Simple Ware with Orange-Brown Slip and Burnish (see p. 275).

Since most of the sherds in this group are body sherds, only a few are illustrated (Fig. 233). No. 1 is not in the brittle orange clay but in a fine buff clay, with a smeared wash of dark brown shades and, on the inner surface, some open radial burnish. Such a bowl profile is possible in the Smeared-Wash Ware of Phases I–J, of which this sherd may be an intrusive stray. A sherd of a deep bowl (Fig. 233:2) is of orange-buff clay and has a rather thick red-orange ocherous slip and open crosshatched burnish. No. 3, of a fine brittle orange clay, is a collared-jar sherd with allover burnish on the outer surface. Other collared-jar sherds (Fig. 233:4–5,

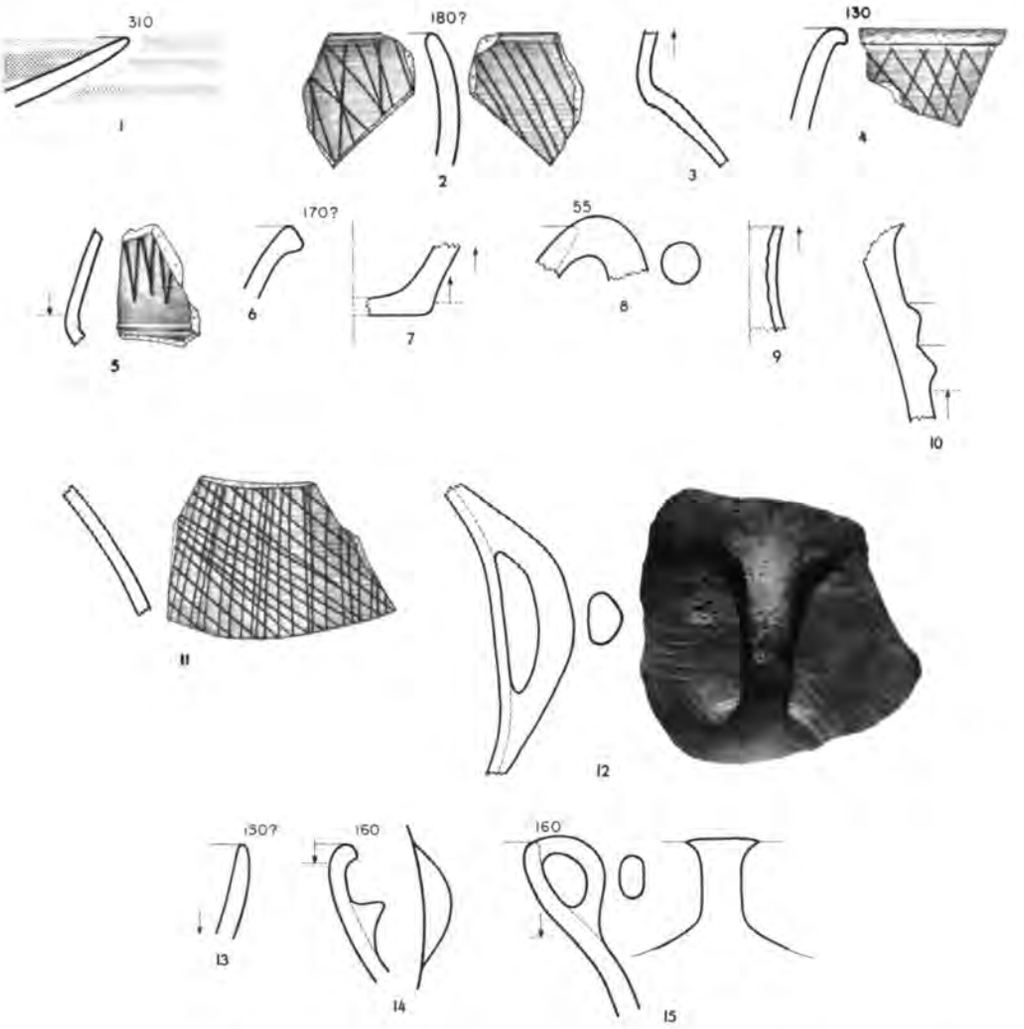

FIG. 233.—PHASE G. MISCELLANEOUS SHERDS. SCALE, 1:3

Pl. 32:12) show traces of crosshatched burnish on the outer surface. Nos. 6 and 7 seem to be sherds of the same pot, evidently a bottle. They are of a soft and rather laminated buff clay with an ocherous slip, and the base shows traces of vertical burnish. No. 8, of brittle orange clay, is a rim sherd with a loop handle; the surface is badly eroded. No. 9, in fine brittle orange clay, is the narrow neck of a bottle with vertical burnish (see p. 371, n. 17). No. 10 is possibly a fragment of a pedestal base. Its plastic ribs are unique in this phase; the orange-buff fabric is rather soft, and there are traces of burnish strokes. Nos. 11 and 12 are body sherds in brittle orange clay. No. 11 has open crosshatched burnish (see p. 371, n. 17); No. 12 (Pl. 32:14) is unique in the phase because of its lightly comb-impressed surface (see pp. 441 f.).

Red-Black Burnished Ware, normal to Phases H–I, seems to make its first appearance in late Phase G (Figs. 233:13–15 and 234, Pls. 33:9 and 36:3). The surface coloration of the few Phase G examples is mottled brown-black to dull orange-buff; the brilliant black and red-orange of the ware at its best do not occur.

FIG. 234.—PHASE G. RED-BLACK BURNISHED WARE BOWL (x2895). SCALE, 1:5

BAKED-CLAY OBJECTS

Fifty-one small clay objects from the Phase G depths on Judaidah are catalogued.[12] Pierced potsherd disks and figurines appear in the largest proportions. Megascopically the clay of most of the objects is that of the Phase G Plain Simple Ware (see p. 264); a few of the potsherd disks and one figurine are in a coarser and darker clay of cooking-pot type, and the beads are of different clays.

Utilitarian objects are mainly spindle whorls. Sixteen of these (e.g. Fig. 235:1–4, Pl. 48:3) are pierced potsherd disks (d. *ca.* 25–90, average d. *ca.* 50 mm.). The holes (d. *ca.* 7 mm.) seem to have been bored from both faces after the sherds were ground into rough disks, but in one case the boring was not completed. One molded whorl (Fig. 235:5, Pl. 48:6) is in the form of a squat bell with slightly concave base. The other molded whorl (Fig. 235:6, Pl. 48:8) is roughly ovoid or biconoid in section and rather poorly molded and fired.

A miniature wheelmade jar (Fig. 235:10), a minute handmade crucible-like bowl (Fig. 235:11), and a fragment of a spouted lamp (Fig. 235:8) are all of Phase G Plain Simple Ware.

The sixteen figurines, all more or less fragmentary, were finger-molded and represent quadrupeds. Several show traces of painted details. The species of the animals meant to be represented cannot be recognized, save that one horned example (Fig. 237:4, Pl. 51:3) is either bovine or cervine. All but the most fragmentary specimens are illustrated on Figure 237:

1. Head missing; marked channel-like depression along back (Pl. 51:12)
2. Head missing; trace of band of red-orange paint around body
3. Hindquarters missing; traces of added clay on back (Pl. 51:2; cf. "pack" of No. 6)
4. Head of horned animal; impressed eyes (Pl. 51:3)
5. Hindquarters missing
6. Posterior of quadruped; "pack" formed of added rolls of clay pressed on while wet, one roll (partially missing) apparently passed under tail from either side (Pl. 51:4)
7. Head and shoulders; impressed eyes (Pl. 51:5)
8. Head and shoulders; bands of blackish paint halterwise around head, band of painted dots around neck
9. Tail or horn
10. Posterior
11. Almost complete (Pl. 51:11)
12. Head missing; rather crudely molded of coarse cooking-pot clay
13. Almost complete; back pinched up into ridge (see section), head probably rather snakelike in profile (Pl. 51:13)

[12] Five additional clay objects are accounted for only by brief descriptions in the field register: two unbaked stoppers (x2789, x3471), a shallow rectangular dish (x3507), a knucklebone? (x2959), and a worked curved piece (x2958). See pp. 371–72 for two potsherd disks (x1608, x2903) whose findspot is ambiguous and may refer to either Phase G or Phase H.

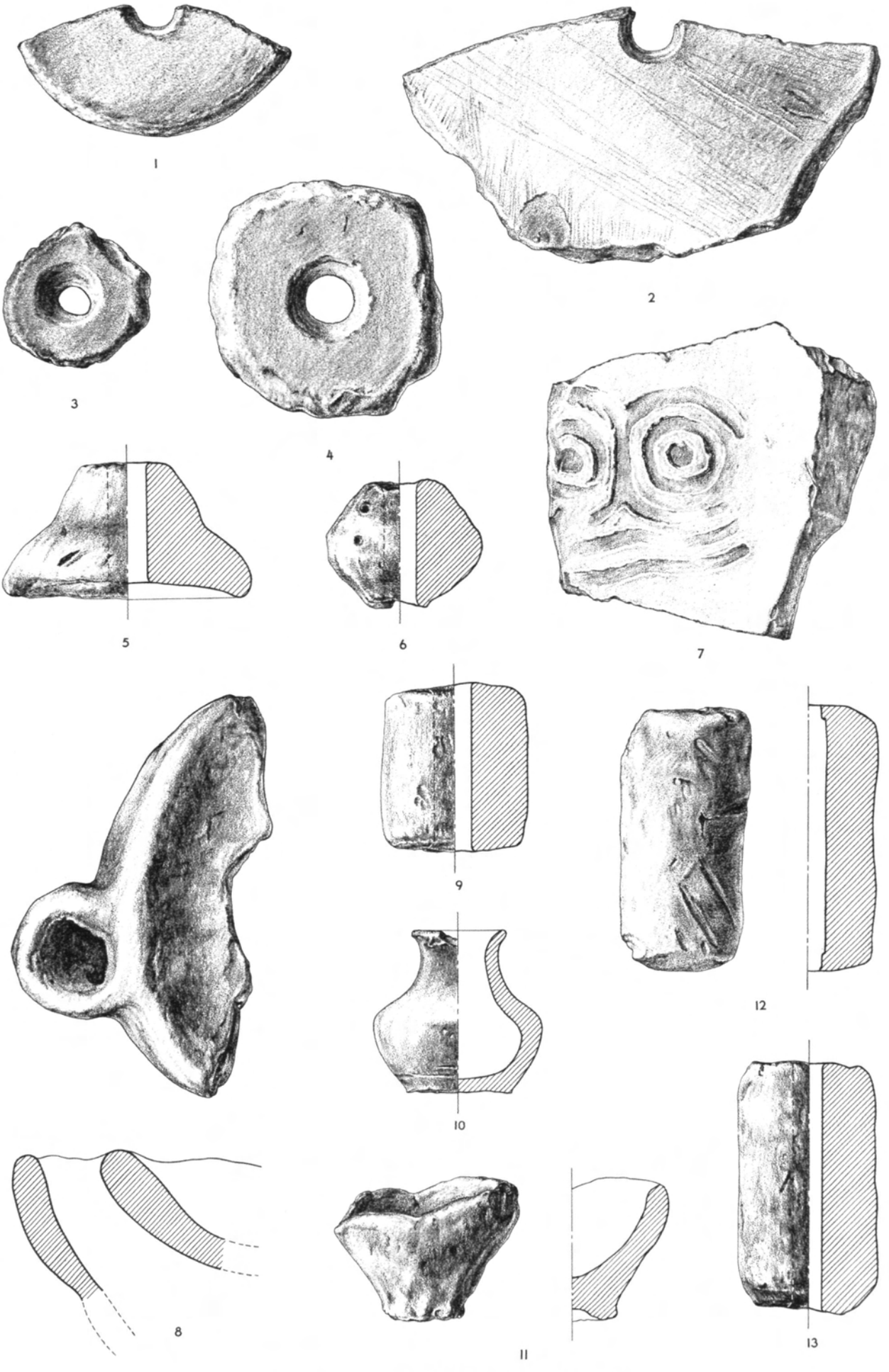

FIG. 235.—PHASE G. BAKED-CLAY OBJECTS. ACTUAL SIZE

Three beads appeared. Two (Pl. 49:22–23) are simple hand-molded globules of blackened clay (cf. Phase B bead; p. 83). The third is a barrel bead (Fig. 238:5, Pl. 49:28) of fine-grained salmon-pink clay which has an exact counterpart in Phase F (see p. 244 and Pl. 49:27).

There are five or possibly six pendants. Three are crescentic (l. *ca.* 30–50, t. 3–4 mm.) with two holes for suspension (Fig. 238:1, 4 and Pl. 49:20, 19), and two are rather elongated biconoids with fishlike tail at the top (Fig. 238:2, Pl. 49:18).[13] A pierced tablike fragment with some burnish may represent either a pendant or an otherwise unknown sort of pot handle (Fig. 238:3).

Two sherds from the same pot, probably a normal Phase G platter (see p. 265), bear impressions of a seal on the inner surface (Figs. 235:7 and 236). Neither impression is deep enough or complete enough to indicate whether the seal was a stamp or a cylinder. Conceivably it was of wood, for the central depressions of the "eyes" call for elevations on the seal itself whereas such elements are more usually depressions in stone seals. The design seems to be a face with great concentric-circled eyes.

FIG. 236.—PHASE G. POTSHERDS WITH IMPRESSIONS OF A SEAL. ACTUAL SIZE

Three rather large perforated cylinders (l. 31–47, d. *ca.* 23–25 mm.) are of uncertain utility (Fig. 235:9, 12, 13). No. 12 (Pl. 49:14), a half-cylinder, shows traces of linear impression and possibly was meant to be a cylinder seal (cf. Fig. 289:5).

METAL OBJECTS

The Phase G cupreous objects include small reamers, a variety of pins, fragments of what was possibly a wire necklace, and miscellaneous bits which are useful only for analysis.[14] Slag of cupreous metal still adheres to fragments of a crucible of Phase G Plain Simple Ware (see p. 270 and Fig. 207:12) and to another small sherd (x3499). There is also a twist of lead wire. The cache of six human figurines, which appeared in the debris just above floor 3 of Judaidah TT 20 XIV, is assigned to the end of Phase G subject to the limitations imposed by our method of excavation in the step trench (see p. 10). But if the cache does not belong at the end of Phase G, it can be no later than the beginning of Phase H.

CUPREOUS TOOLS AND ORNAMENTS

The condition of these objects varies. The beaten outer surfaces of some of the reamers and some of the pins are altered, but the profiles are still clear. Several of the longer objects

[13] A similar shape occurs in stone in Phase G (see p. 327 and Fig. 252:27).

[14] Noted in the field register but not otherwise accounted for are a bronze spiral ring from Judaidah TT 20 XIV 3 (x3678) and two pieces of bronze from JK 3:12 fl. (x2732*b*).

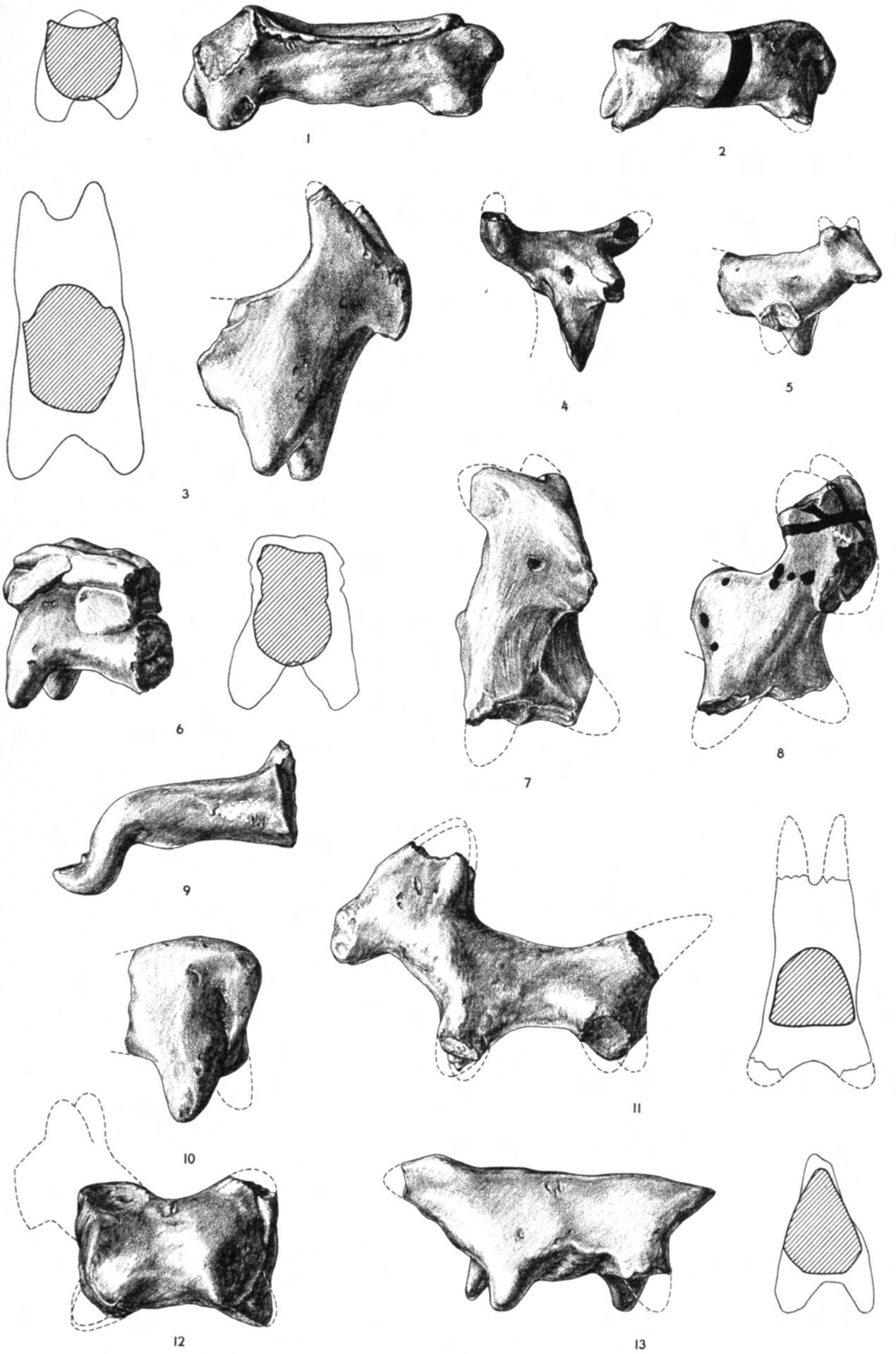

FIG. 237.—PHASE G. BAKED-CLAY ANIMAL FIGURINES. ACTUAL SIZE

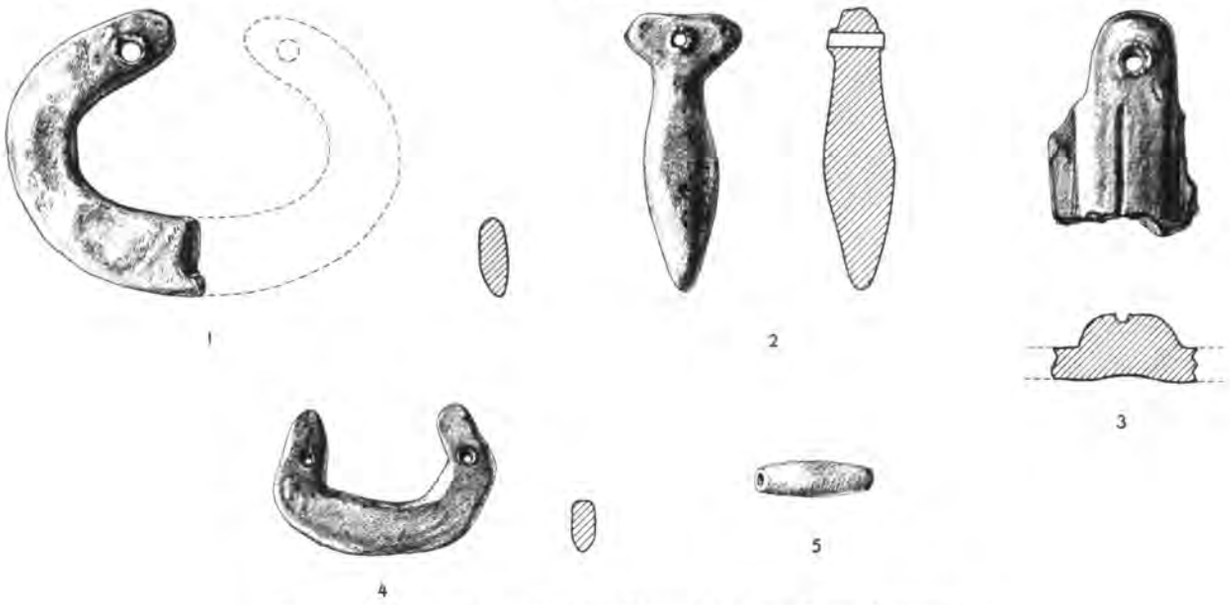

FIG. 238.—PHASE G. BAKED-CLAY PENDANTS AND A BEAD. ACTUAL SIZE

are broken but more or less complete, though unfortunately the wire necklace(?) is incomplete.

Of the nine reamers, six are pointed at both ends (e.g. Fig. 239:1–3, Pl. 52:8). The cross section is normally square or rectangular, and the thickest part of the object is about one-third of the way from one end; this end tends to be less sharp than the other and is probably the butt or hafted end. If hafted, these objects would serve well as drills, reamers, or engraving tools. The remaining reamers have a chisel bit at one end and a more or less rounded point at the other. In two examples (Fig. 239:4–5, Pl. 52:7) the bit is beveled from both faces, and its edge tends to be more rounded on one side. The third (x2654) is badly corroded and seems not to have had much use; its bevel seems to be from one face only, and the edge of the bit is evenly rounded.

Three of the pins are of the simplest type, with plain rounded or expanded rounded (club-like) head (Fig. 239:10, 12 and Pl. 53:7). In one of these (Fig. 239:12) the central part of the shaft is twisted. Perhaps corollary to the plain rounded head is a small knobbed head (Fig. 239:7, Pl. 53:15). Two pins have more complicated heads, an altered and broken (but complete) example with a flattened rolled head (Fig. 239:11, Pl. 53:4) and a well preserved specimen with a simple knot head (Fig. 239:9, Pl. 53:5).[15] Figure 239:8 is possibly a dowel pin. Its cross section is square to rhomboidal. One end is battered over, but there is not a proper head. Presumably the object could be a drill, a punch, or even a projectile point.

An incomplete circle of wire (Fig. 239:13, Pl. 52:13) has nothing to suggest that it is a necklace save its shape and size and the fact that there are traces of wire necklaces on the metal figurines (see p. 302).

The miscellaneous fragments include a piece of hooked wire (Fig. 239:6), various bits of pins or reamers (e.g. x3143), and several small pieces of thin sheet metal. There are also formless lumps and bits of porous slag.

LEAD WIRE

The twist of lead wire (Fig. 239:14) is the single noncupreous metal represented in Phase G save for the decoration on the figurines (see p. 302).

[15] The latter appeared in early Phase G (JK 3:19 fl.). The next example of the type, with more complicated knot (Fig. 292:16, Pl. 53:8), is from early Phase H (see p. 376).

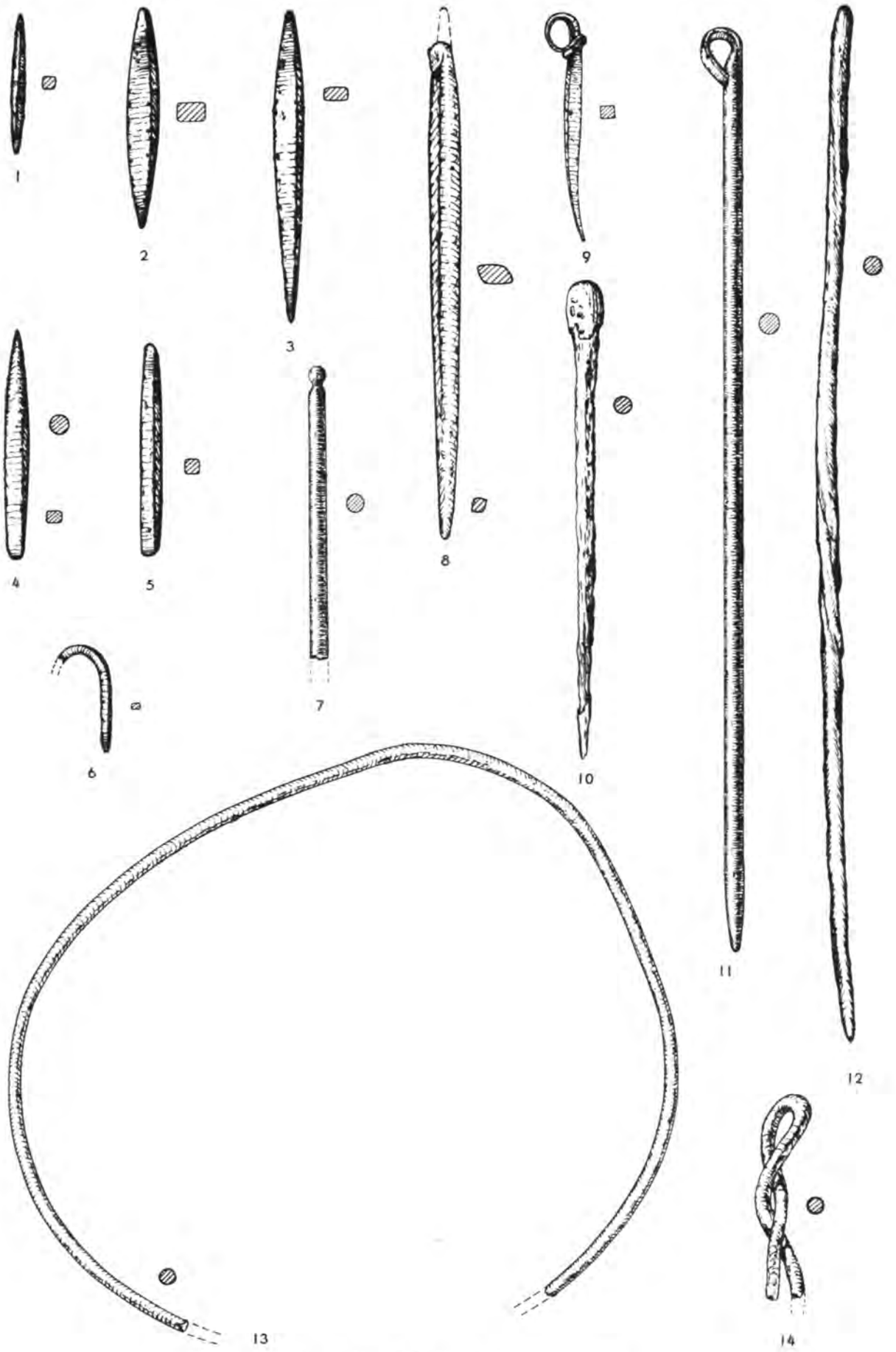

FIG. 239.—PHASE G. METAL OBJECTS. ACTUAL SIZE

Cache of Human Figurines

This remarkable find of a clump of six figurines, perhaps wrapped in cloth (see p. 305), calls for considerable detailed discussion. The clump was given one field number (x5105), and the individual figurines are designated by letters (*A–F*). The measurements are given in Table IV, along with summaries of the general condition of the objects. The following general consideration of the group from a metallurgical point of view was supplied by Dr. Joseph E. Burke and Professor Norman H. Nachtrieb.[16]

TABLE IV

Dimensions and General Condition of Human Figurines in Cache from Judaidah TT 20 XIV 3

Figurine	Dimensions in Millimeters*						General condition
	Over-all Height	Ball of Heel to Tip of Head	Biacromial Diameter (Shoulder Width)	Bitrochanteric Diameter (Hip Width)	Chest Thickness†	Buttocks Thickness	
A (shortest male)	192	181	46	30	9	19.5	Surface generally well preserved, some pits on legs, elbows, chest; helmet fragmentary
B (intermediate male)	254	225	65†	47	8.5	15	Face, shoulders, and arms badly pitted and cracked; surface otherwise fairly good; helmet fairly complete
C (tallest male)	265	232	64	48	8	14	Surface somewhat pitted, especially on back, but general features well preserved; helmet disintegrated
D (tallest female)	220.5	189	53	41	8.5	14	Some pitting but surface generally well preserved; applied decoration badly disintegrated
E (intermediate female)	216	187	55	43	9	15	More pitted than *D* but general features well preserved; applied decoration badly disintegrated
F (shortest female)	146	134	39	26†	9	17.5	Some pitting but surface generally well preserved save on right hip and arm; face and headdress especially well preserved save for pits on chin

* The measuring, first in March, 1942, and again in June, 1944, was done after the figurines had been completely cleaned by the late Mr. Herbert P. Burtch, Oriental Institute preparator.

† Taken along the median line and within the dorsal groove. The thickness taken to either the right or the left of the median line is slightly over 1 mm. more than the thickness given.

The group consists of three male and three female figures, all of which were obviously cast; hence this report is confined largely to speculation, based upon a detailed examination of the figures, as to the method of casting.

Two of the males (*B–C*) and two of the females (*D–E*) are similar in appearance and are larger than the remaining pair (*A* and *F*), although more crudely modeled in the flat. The two small figures are modeled in the round and represent in most respects more expert craftsmanship. One large male (*B*) and one large female (*E*) are rather badly corroded, but the other four pieces are excellently preserved.

Metallographic Examination. One can conclude immediately from the appearance of the specimens that they were cast. For example, in casting some metal remains in the sprue or opening through which the metal is poured into the mold; the remains of this metal may be seen under the feet of all the figures [where the sprues serve as tangs for mounting them]. However, this conclusion was confirmed

[16] This report formed part of Braidwood, Burke, and Nachtrieb, "Ancient Syrian coppers and bronzes," *Journal of Chemical Education* XXVIII (1951) 87–96. We are deeply indebted to Burke and Nachtrieb, not only for supplying this description but also for advice on our own general description which follows it.

by the metallographic examination of a small piece cut from one of the sprues which shows the dendritic structure characteristic of "as-cast" metals.

Possible Methods of Casting. At least three methods might possibly have been used to prepare molds for the castings. A permanent mold could have been prepared by negative carving in a number of pieces of stone or clay, so that they could be assembled into a hollow mold. Alternatively, figures could have been modeled in the positive and then coated with moist clay after greasing. After drying, the coating could have been cut into as many pieces as necessary to remove it and reassembled to give the desired hollow mold. This method is often used at the present time in the casting of statuary. The third possible method is the lost-wax process, which in more recent years has been called "investment casting." This process is known to be older in Mesopotamia than in Egypt.[17] It was also used during the recent war for the fabrication of parts of high melting, nonmachinable metals for turbo-superchargers and jet engines. The procedure is simple. A model of the final part is prepared in a suitable wax, which is then invested or coated with a slurry of a refractory material such as clay. After drying, the invested wax is coated with more clay, or packed in sand, and the whole assembly is heated to melt out the wax and leave the mold ready to receive metal.

Of these methods, the first can be ruled out immediately. The appearance of the pieces is definitely that of figures modeled in the positive in some soft material such as clay. The decision must thus be made between the second and the third of the methods described above. If the mold had been made by coating a positive model with clay and cutting it into small pieces to remove it from the pattern, a very large number of pieces would have been required, since the shape is complicated and would be difficult to draw from a mold. There are numerous reasons for rejecting this possibility, but the most important is that after reassembly into a completed mold there would have been numerous small cracks into which metal would flow to produce fins on the finished casting. A careful search has been made, and no evidence of such fins can be found. If they were ever present, they were carefully removed in a final finishing operation. A few very obvious imperfections were found, however: for example, a ridge on the left thigh of *C* (see Pls. 56*f* and 59) and two large lumps and a long ridge on the back of *B* (see Pl. 58). Most of these could have been easily removed if a finishing operation had been performed. Since no attempt was made to remove these obvious imperfections, one is left with the conclusion that no finishing was done on the rough casting and thus that the second method of making molds was not used.

A comparison of the two larger females (*D–E*) gives further support to the conclusion that the figures could not have been cast in a permanent mold or in a mold that was mechanically produced from a master pattern. Although the two larger females are similar in general appearance, they differ sufficiently in important details to indicate that they cannot be mechanical reproductions of the same master pattern. For example, while the hips are broader in one, the shoulders are broader in the other, and the carving on the back differs seriously from one to the other.

There is no doubt that the figures were made by the lost-wax casting process. The individual patterns probably were beeswax models of standard figures, and the investment material probably was clay. This process gives almost perfect castings which reproduce fine detail from the original and which require little, if any, finishing. The imperfections previously noted undoubtedly came from cracks in the mold which might have appeared either when the wax was melted out or when the hot metal was poured in.

[17] The claim of H. Garland and C. O. Bannister, *Ancient Egyptian Metallurgy* (London, 1927) pp. 36–37, that the 6th-dynasty statue of Pepi (*ca.* 2300 B.C.) was so cast is treated with skepticism by J. R. Partington, *Origins and Development of Applied Chemistry* (London etc., 1935) p. 55; see also p. 64. Partington believes that the lost-wax process for bronze casting did not come into vogue in Egypt before the 18th dynasty, though its use for jewelry casting in the finer metals may go back to the 12th dynasty. Dr. Cornelius Hillen, who gave us very helpful advice while he was studying at the Oriental Institute, believes that the earliest indications of such casting may be found in the small animal which forms the handle of a cylinder seal of the Protoliterate *b* phase (late "Uruk" period) in Mesopotamia; see H. Frankfort, *Cylinder Seals* (London, 1939) Pl. I *b*. A date for the cylinder seal would be *ca.* 3400 B.C. The lost-wax process is considered to have been certainly used in the production of three copper statuettes found by the Oriental Institute at Khafajah, in Iraq, in Early Dynastic II context (*ca.* 2800 B.C.); see Pinhas Delougaz, *The Temple Oval at Khafājah* (*OIP* LIII [1940]) Figs. 28–29 and pp. 151–52; Frankfort, *Sculpture of the Third Millennium B.C. from Tell Asmar and Khafājah* (*OIP* XLIV [1939]) pp. 39–42 and Pls. 98–103; Frankfort, *More Sculpture from the Diyala Region* (*OIP* LX [1943]) p. 11. The Khafajah statuettes are probably slightly later than the ʿAmuq figurines which are under discussion here.

That all the figures were cast in the inverted position is indicated both by the position of the sprue under the feet and by porosity at and under the chin of most of the specimens; in an inverted specimen the gas, which causes the porosity, would, of course, collect at a re-entrant angle such as exists at the chin. It is interesting to note that in the tall figures, which have long feet, the sprue was arranged to run from front to back to feed the feet properly with molten metal, while in the small specimens, with short feet, it was possible to orient the sprue in a left-right plane.

The method used to produce the various holes in the casting is uncertain. Very probably the holes in the hands were cored in the mold, since they are rather large. It is possible that the holes around the head, through which the wires representing hair were later passed, were also cored in the mold, but with difficulty. It seems more probable that they were drilled in the finished casting.

The basic metal of the figurines is a copper-base alloy with sufficient tin content to be called bronze (see p. 315). However, Burke and Nachtrieb, in checking our descriptions, tended toward the term "copper-base alloy," which we have retained.

There are certain general features which the six figurines, or most of them, have in common. Each, save the small female (*F*), have added details in a noncopper-base alloy. This metal is a silver-rich alloy with copper and gold (see p. 315), which in its present state has almost the color of unpolished zinc (though of a slightly yellowish hue). It does not have the color of proper gold, nor has it oxidized in the manner normal to silver. It was used in sheets (not over 0.5 mm. thick) for the helmets of the male figures and the caps and collars of the two larger female figures and in the form of wire for the curls of the two larger females and the torques of the two larger males (see Pl. 56 *d* for fragments). The torques are only very incompletely preserved.

The general physical features of the two larger males (*B–C*) and the two larger females (*D–E*) are remarkably similar. They were evidently meant to be viewed only from the front (or the back), since only the feet, hands, heads, and sexual features are properly dimensional, the bodies being otherwise quite flat. While all six figurines have a dorsal groove, only the four larger ones (*B–E*) have the shoulder blades indicated. The small male (*A*) and the small female (*F*) are, on the contrary, quite three-dimensional. The faces of the larger figures are especially long, and their features are gross; those of the small male and the small female are somewhat less exaggerated and more finely worked, with attention to such details as the pupils of the eyes and the nostrils. The ears of all of the figurines tend to be disproportionally large. The fingers and toes are suggested by plain V-sectioned indentations (see Pl. 63 *d*), which appear to have been made in the original patterns. All but the small female have the normal number of fingers, while only four toes are indicated on the two larger males. The small female has only the thumb and three fingers on each hand.

The general proportions of the bodies are more similar than dissimilar. If, for example, one male and one female were meant to be used together as a pair (i.e., figures *A* and *F* together or *C* and *D* together), then the male figure of the pair is proportionately larger than the female. The sex is indicated by the headdress and especially the external sexual organs more than by general body proportions. All three males are bearded, and in each the vestigial male nipples are indicated. Each male has a plainly rendered penis, and the scrotums of the two larger males (*B–C*) also are indicated. There is little doubt that each penis is rendered as circumcised.[18] Dr. Cornelius W. Vermuelen, of the Department of Urology of Billings Hospital, was so kind as to examine the figurines and to supply the following statement.

[18] The only reasonable doubt might be based on the assumption that the penises were conceived of as in an erect state but were not shown freestanding either because casting might be more difficult or for fear that they might break off. Since the upstanding thumbs of the males seem to have been part of the original castings, such an assumption regarding the penises is doubtful. We raised this point with Dr. Vermeulen, and his reaction to it is covered in his statement which follows.

In *A*, the corona of the penis being completely exposed, circumcision is undoubtedly represented. The same is true of *C*, in which the glans penis is remarkably accurate anatomically. Specimen *B* probably represents incomplete circumcision. In each of these specimens the penis is pendulous; if erection is actually represented, *B* may be uncircumcised, but in *A* and *C* circumcision is still quite certain.

On the females, the vulva is indicated by a plain V-sectioned incision. On the larger two (*D–E*) the breasts are almost geometrically conical and project abnormally in relation to their basal diameter. The breasts of the small female (*F*) are more natural, and the whole bosom is modeled. While it is not quite certain because of the somewhat pitted condition, it is probable that *D* and *E* each had a shallow depression suggesting the umbilicus. The umbilicus of *F* is quite plain.

There is a strict dichotomy of attitude rendered for each sex, although all of the figurines stand erect with feet together and look directly forward. The males each have the arms sharply flexed at the elbows so that each hand is in front of its corresponding shoulder. Each hand of the males is clenched and drilled or cored to hold a weapon (see p. 313), and the thumb projects upward along the axis of the hole through the hand. Each female figure is rendered with the arms crossed, right over left, so that each hand supports the opposite breast.

The females have no indication of dress in the cupreous metal of the original castings; the two larger females have added features of decoration or dress(?) in the silver alloy. The coiffure of each female, except for the hanging ringlets, is part of the original casting, although the holes for the hanging ringlets may have been drilled later (see Figs. 243–45, Pls. 61–62 and 64). The males each have a broad belt and buckle which is part of the original casting; the belt of *A* has simple linear decoration. Moreover, the original castings of the males had elongated bases for the helmets rather than properly shaped calvarias (see Figs. 240–42, Pls. 57–59[19]).

The two larger males (*B–C*) lean forward very perceptibly. This position may mean no more than that the plane of the soles of the feet was not perpendicular to the vertical axis of the body in the pattern. Quite naturally, the sprue was fairly perpendicular to the soles of the feet; thus the body has a forward pitch when the tang is perpendicularly mounted (see e.g. Pl. 59 *d*). Probably for a similar reason, the smallest female (*F*) leans slightly backward.

A few details concerning each figurine and the fragments found with them need comment.

Figurine A (Fig. 240, Pl. 57).—The helmet of silver alloy apparently was made by beating a thin sheet of the metal into roughly conical form and crimping it with a folding joint, which falls just to the right of the median line on the back of the head. The top of the helmet is not preserved; the spike is restored in Figure 240 on the analogy of figurines *B* and *C* (for which spikes were recovered; see Pl. 56 *d*, upper left). The facial features are simply but carefully detailed: a brow ridge (as in the very similar face of figurine *F;* see Pl. 64), large eyes depressed in sharply bordered sockets and provided with indented pupils, a straight nose with the nostrils indicated by indentations, and a very simple slit mouth. The chin, although on a larger scale commensurate with the whole head, is very close in proportions to that of the smallest female (*F*). The beard is indicated by short vertical lines evenly spaced from ear to ear; the three medial lines are slightly longer than those on either side. The lines do not extend below the lower anterior border of the jaw; the under surface of the chin is smooth *à la bedoui*. The ears are very simple, with only a single depression indicated.

The right hand and the distal half of the forearm are freestanding from the body. The elbows also are away from the body. The legs have voids between them above and below the knees.

[19] The restored drawings (Figs. 240–45) were made after we temporarily decorated the figurines with tin foil and soft wire, with careful reference to the progress photographs made during the cleaning and to the silver-alloy fragments which came from each figure.

The plane of the soles of the feet pitches downward toward the front, but the axis of the broad basal tang continues the vertical axis of the body.

Figurine B (Fig. 241, Pls. 58 and 60 *a–c*).—The helmet of silver alloy is fairly intact except for the lower edge. It was apparently beaten into its domed shape directly, for no folded joint shows (cf. figure *A*). A spike of the silver alloy protrudes upward through a hole in the top of the helmet. The top of the spike, probably pointed, is not intact; the base is flattened out like a tack head (cf. Pl. 56 *d*, upper left) to keep the spike in place.

The wire necklace or torque[20] in the silver alloy is more complete on figurine *B* (see Pl. 60 *b–c*) than on figurine *C*. However, both torques are in a bad state of preservation. It is possible to say that the torque of figurine *B* was of square-sectioned wire, apparently twisted at least where it passes over the shoulders (as also in *C;* see Pl. 56 *e*). However, a short piece of untwisted wire (Pl. 56 *d*, upper center), which must have come from the torque of either *B* or *C* but which was found loose in the clump, indicates that one or the other of the torques was plain in part. A photograph (Pl. 60 *b*) taken during the cleaning of *B* shows the torque in its most intact state; one end terminates in a loop. Unfortunately most of the metal of the torque was too altered to be preserved.

Close inspection of the face and body of figurine *B* shows nothing which is not analogous to, and better preserved in, figurine *C*. The vertical ridge and the two blobs on the back of *B* probably resulted from flaws in the mold (see p. 301).

Figurine C (Fig. 242, Pls. 56 *e–f* and 59).—While this figurine is in general much better preserved than *B*, very little is left of the helmet of silver alloy. There are, however, sufficient small fragments to suggest a domed helmet resembling that of *B;* an incomplete spike like that on *B* also exists (Pl. 56 *d*, upper left), and the unnaturally shaped calvaria of the original casting is plain. The face is much more grossly rendered than that of *A*. A rather sharp brow ridge, poorly preserved in part, evidently ran continuously from ear to ear, coming flush with the nose at the top of the bridge. The long thin nose projects and is evidently somewhat oxidized; the nostrils are indicated by shallow indentations. The right eye is somewhat oxidized but must have resembled the left; the border of the left eye socket is proportionately large and is sharply cut around the protruding elliptical eyeball. The mouth is a simple V-sectioned indentation, bowed slightly upward. The lower jaw is long and sacklike, though thin in depth; the straight lines of the beard do not continue below the lower anterior border of the jaw. The ears are disproportionately large. The helix is boldly rendered with a certain degree of attention to nature in that it begins within the auricular depression and divides the cavity into an upper and a lower part; the lobe is ignored.

Only a very short piece of the square-sectioned wire of the torque remains in place. It is quite clearly twisted (see Pl. 56 *e*).

The elbows are tight against the body and cover a bit of the broad belt. The left forearm is twisted so that the palm of the left hand is toward the body and the shaft of the weapon which the hand once grasped (see p. 313) would lie in a plane roughly parallel to the frontal plane of the body. The right forearm is twisted so that the shaft of the weapon grasped by the right hand would lie in a plane parallel to the median plane of the body. The right thumb is long and projects up and back along the axis of the hole for the shaft of the weapon; the left thumb is badly oxidized (as is that of figurine *B*) but apparently projected up and to the left along the axis of the hole.

A thin ridge, which seems to pass under the penis from the right thigh to the left thigh (see Pl. 56 *f*) is assumed to result from a flaw in the mold (see p. 301). The knees and legs show

[20] See Childe, *The Bronze Age*, p. 122, n. 1: "The name *torque*, derived from the Latin *torqueo*, 'I twist,' should strictly be applied only to such twisted rings, but is in practice used for all neck-rings whether smooth or twisted." A general description of torques is given *ibid.*

little modeling. The ankles are vaguely indicated. The feet are long, with the plane of the soles meeting the frontal plane of the body at an angle of *ca.* 77°.

Figurine D (Fig. 243, Pls. 60 *d–f* and 61).—This figurine is only very slightly (2 mm.) taller than *E*, and the two resemble each other very closely. Figurine *D* is not quite so wide in the shoulders and hips, the shoulders are more square, and the lines indicating the shoulder blades and buttocks are slightly higher.

The coiffure of the casting seems to differ in no significant way from that of *E*, which is more intact (see below). The applied decoration of silver alloy may have differed somewhat from that of *E*. When *D* was freed from the clump of six figurines, bits of silver alloy adhered to it in positions which suggested a cap and a collar or collars (Pl. 60 *f* and Fig. 243). We have assumed that a small curving sheet of silver alloy which appeared over the upper face originally belonged to some sort of cap and that it had slid down out of place. We doubt that the position in which it appeared (see Pl. 60 *f*) can be the original position. More or less fragmentary remains of at least six (three or four on either side of the head) spirally rolled wire curls of silver alloy were still hooked through holes in the band which surrounds the crown of the head of the casting. The curls must originally have hung down almost to the shoulders. Two loose fragments, from *D* or *E*, are shown on Plate 56 *d* (lower left). There were also remains of silver alloy seemingly suspended biblike around the neck as though they had belonged to a sort of frontal collar. In the restoration we have assumed only one collar; there may have been more than one, for there was evidence of two collars on figurine *E*. Sheetlike fragments of silver alloy were found adhering to *D* as far down as the folded forearms (see Pl. 60 *f*); these may have come from either the cap or the collar.

The facial features are in the same gross style as those of the larger males (*B–C*), the main difference being that there is no beard.

Aside from the position of the arms and hands and the presence of the breasts and vulva, the bodily treatment is very close to that of the larger males. The whole figurine is proportionately smaller than *B* and *C*, and there is some observed reality in the fact that the legs are shorter in relation to the hip width.

The feet resemble those of the larger males quite closely, but the plane of the soles is much more nearly at right angles to the frontal plane of the body, and the figurine stands quite vertically when mounted by means of the basal tang.

Photographs taken after figurine *D* was removed from the clump but before it was cleaned show quite clear impressions of cloth (Pl. 60 *d–e*). Much fainter suggestions of cloth impressions appeared on several of the other figurines, but these were in no case as certain as those on figurine *D*. Under the circumstances, it is impossible to be certain whether all the figurines were wrapped in one large piece of cloth when they were cached or whether *D*, at least, originally wore a cloth garment. The latter possibility is further suggested by the fact that the cloth impressions cover the torso and thighs both front and back. The impression or "ghost" of the cloth, which seems to have been a transposition of some organic thread material by copper oxide, suggests an over-and-under weave of coarse thread, although it is of course quite possible that the gage of the thread is not fairly indicated by the size of its "ghost" in copper oxide.

Figurine E (Fig. 244, Pls. 62–63).—Figurine *E* is so similar to *D* that it is only necessary to describe the more intact coiffure and the added features of silver alloy. It is not certain whether all that appears to be coiffure was really meant to represent hair. There are two main elements in the cast part of the coiffure: (1) a continuous roll or band which passes crownlike over the forehead, above and behind both ears, and over the posterior base of the skull; and (2) an elongated "chignon" which begins high on the head and extends below the back of the neck (see Pls. 62–63 *a*).

The crowning roll or band is somewhat oxidized; no traces of decoration appear on it. It was probably meant to be rounded; the present thickness is *ca.* 3 mm. Three small holes just in front of the ears on each side of the head were probably drilled in the metal (see Pl. 63 *f*); they pass through the metal on the inside of the crowning roll where it lies against the skull. The spiral wire curls of silver alloy were quite well preserved (see Pl. 63 *e*); they must originally have hung down almost to the shoulders. Their ends were looped through the small holes in the crowning roll, which appears to pass over the "chignon" as if to hold it in place. The "chignon" is roughly symmetrical above and below the crowning roll and somewhat flared at top and bottom. Some detail is given by deep widely spaced indentations. These are mainly horizontal, but the flaring top and bottom have short vertical indentations. If the affair is actually meant to suggest hair, it is quite grossly done.

There was ample evidence for some form of cap, perhaps close-fitting, of the silver alloy. Traces of a foil-like sheet were found as far forward as the front of the crowning roll, on various spots on the crown of the head and the top of the "chignon," and as far down as the crowning roll at the posterior base of the head (see Pl. 63 *a*). They may, of course, have been crushed into the places where they were found after the figurines were cached, and hence the restoration (Fig. 244) does not suggest a really close-fitting cap.

Figurine *E*, in the process of its cleaning, yielded fairly clear evidence of the position of a collar of silver alloy (Pl. 63 *b*, *c*, *e*). It gave the impression of being somewhat crushed down from its original position and is restored in Figure 244 in a slightly higher position than that in which it was found. The fragment from the right end is shown on Plate 56 *d* (upper right). A fragment of silver alloy with *repoussé* decoration (Pl. 56 *d*, lower left) was found in an oblique position under the chin and is restored as a sort of upper collar. The piercings and *repoussé* dots were probably in imitation of some sort of elaborate bead necklace.

Figurine F (Fig. 245, Pl. 64).—The physiognomy and general bodily features of this smallest female figure resemble those of the smallest male (*A*) quite closely, except of course in the various sexual characteristics. The ears of *F* may be slightly better worked. The lobes seem to show some special attention, which is now unclear; the left lobe appears to curl into itself, and the right flares out slightly into a sort of hook. The arms are somewhat sticklike, and the hands seem quite crude. There has been some oxidation on the upper right surfaces of the breasts. The angle formed by the plane of the soles of the feet and the transverse frontal plane of the body is slightly greater than a right angle, so that the body leans slightly backward when the figurine is mounted by means of the basal tang, which is short and broad.

Figurine *F* is the only figurine for which there was no evidence of added features in the silver alloy. The figure appears to have been nude, save for the possibility of some sort of cloth dress of which no adequate trace remained. The entire coiffure is part of the casting; the crowning band shows no holes such as were drilled to receive wire curls in *D* and *E*. The details are rather carefully rendered, and the hairdress appears in considerable clarity. The hair is parted in the center and drawn back over the head, above the ears, to fall in tresses whose ends are neatly gathered together at the base of the neck. Around the crown of the head is a well preserved band, covered with closely set vertical strokes, which passes over and holds in place a sort of "chignon." The "chignon" protrudes only slightly above the crowning band and has a marked flare only at the bottom. These features, coupled with the fact that the "chignon" has only horizontal strokes, indicate that it is a different type of "chignon" from that of the two larger female figurines (*D–E*). The "chignon" and the crowning band of *F*, being quite well preserved, do not give the impression that they were intended to suggest hair.

Fragments (Pl. 56 *c–d*).—The clump in which the figurines were found (Pl. 56 *a*) yielded fragments of the accessories of the figurines, in both the silver alloy and the cupreous metal

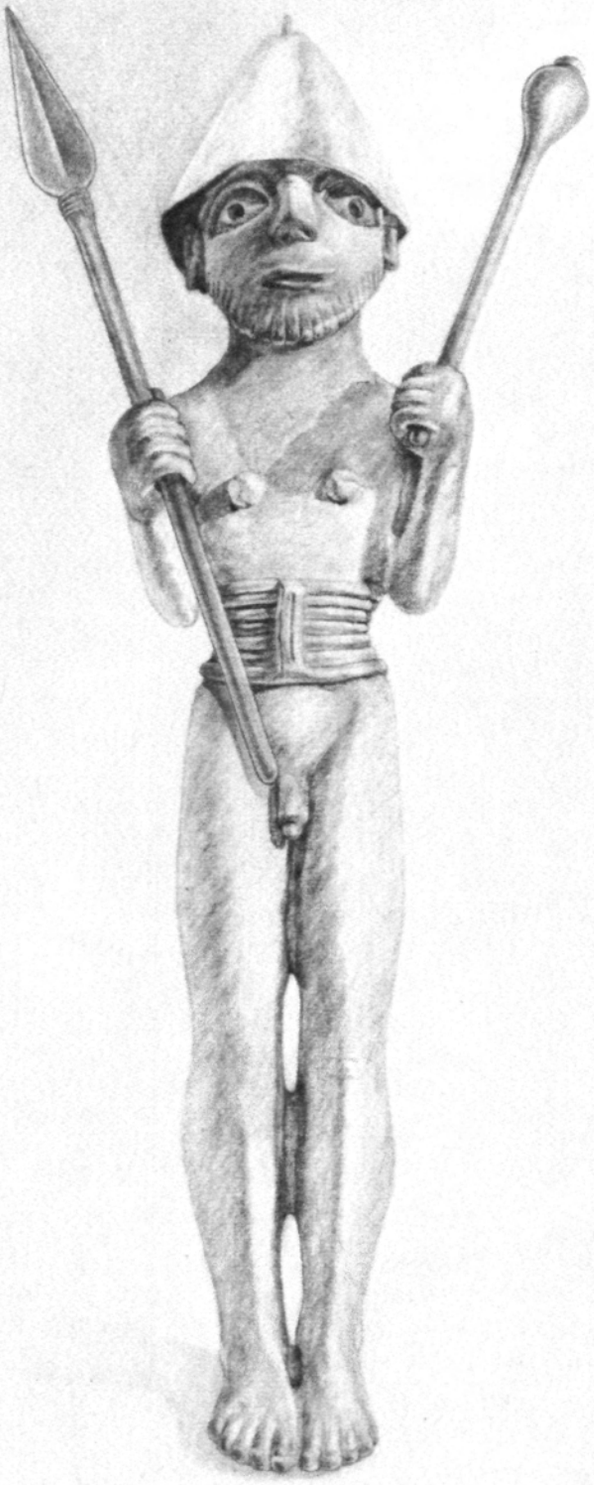

Fig. 240.—Phase G. Restoration of Figurine *A*. Actual Size

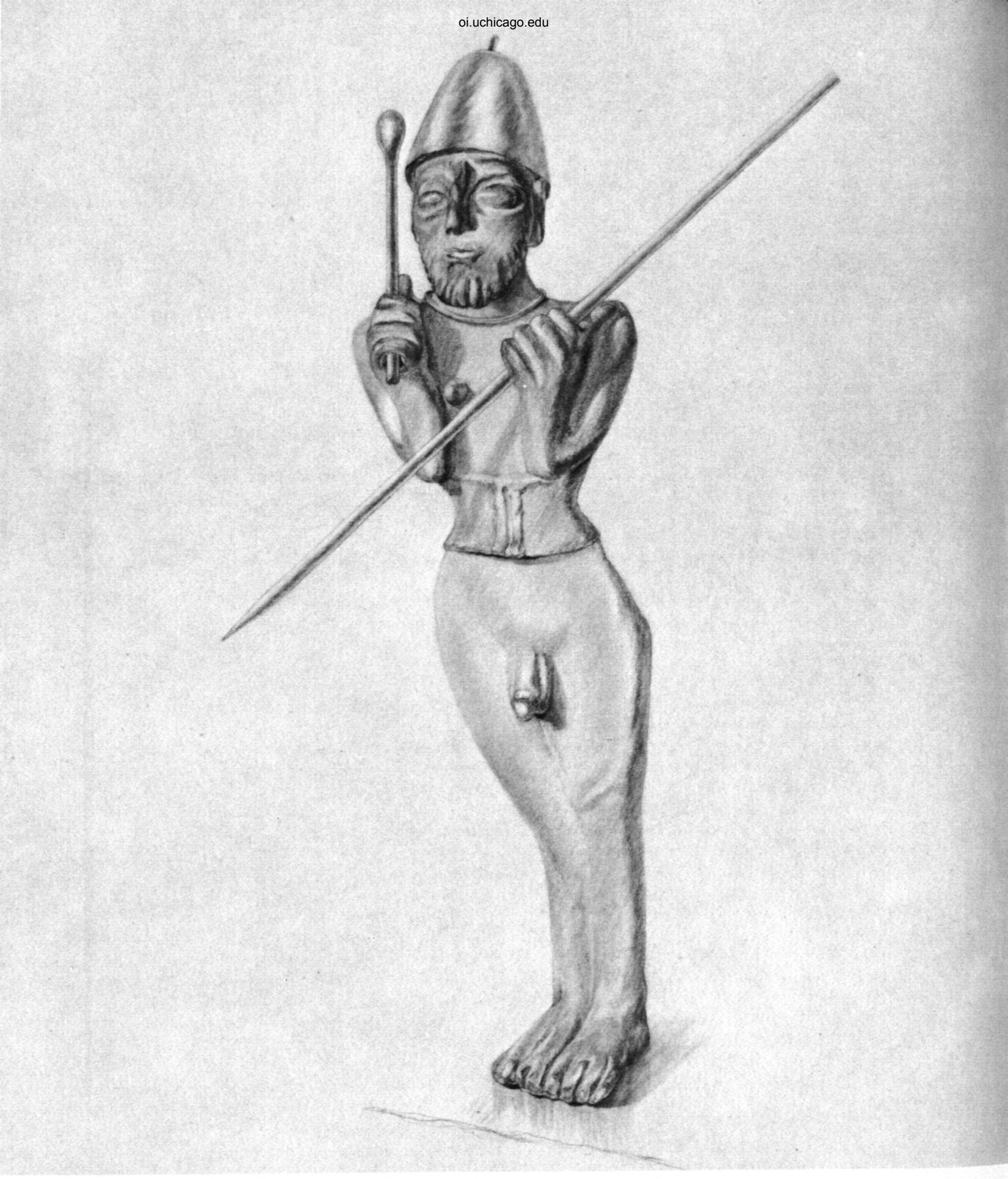

FIG. 241.—PHASE G. RESTORATION OF FIGURINE *B*. ACTUAL SIZE

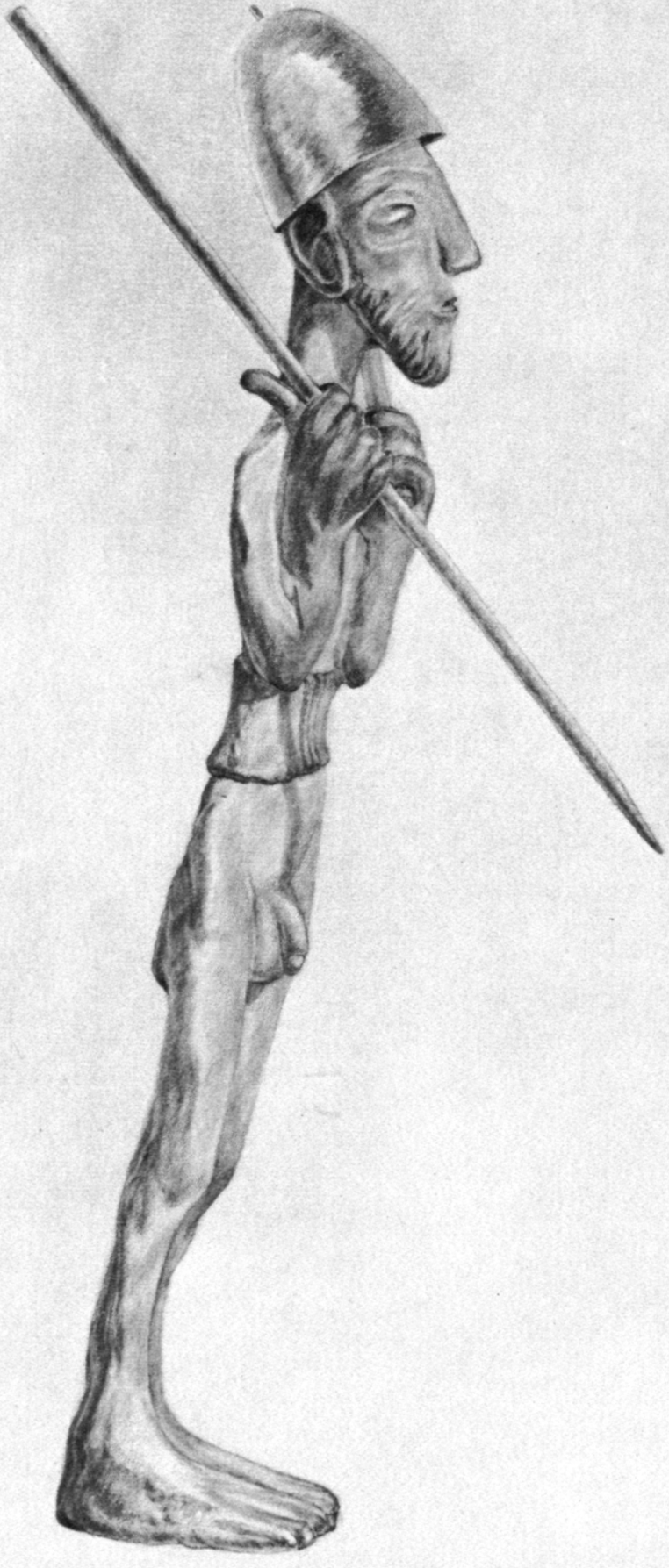

FIG. 242.—PHASE G. RESTORATION OF FIGURINE *C*. ACTUAL SIZE

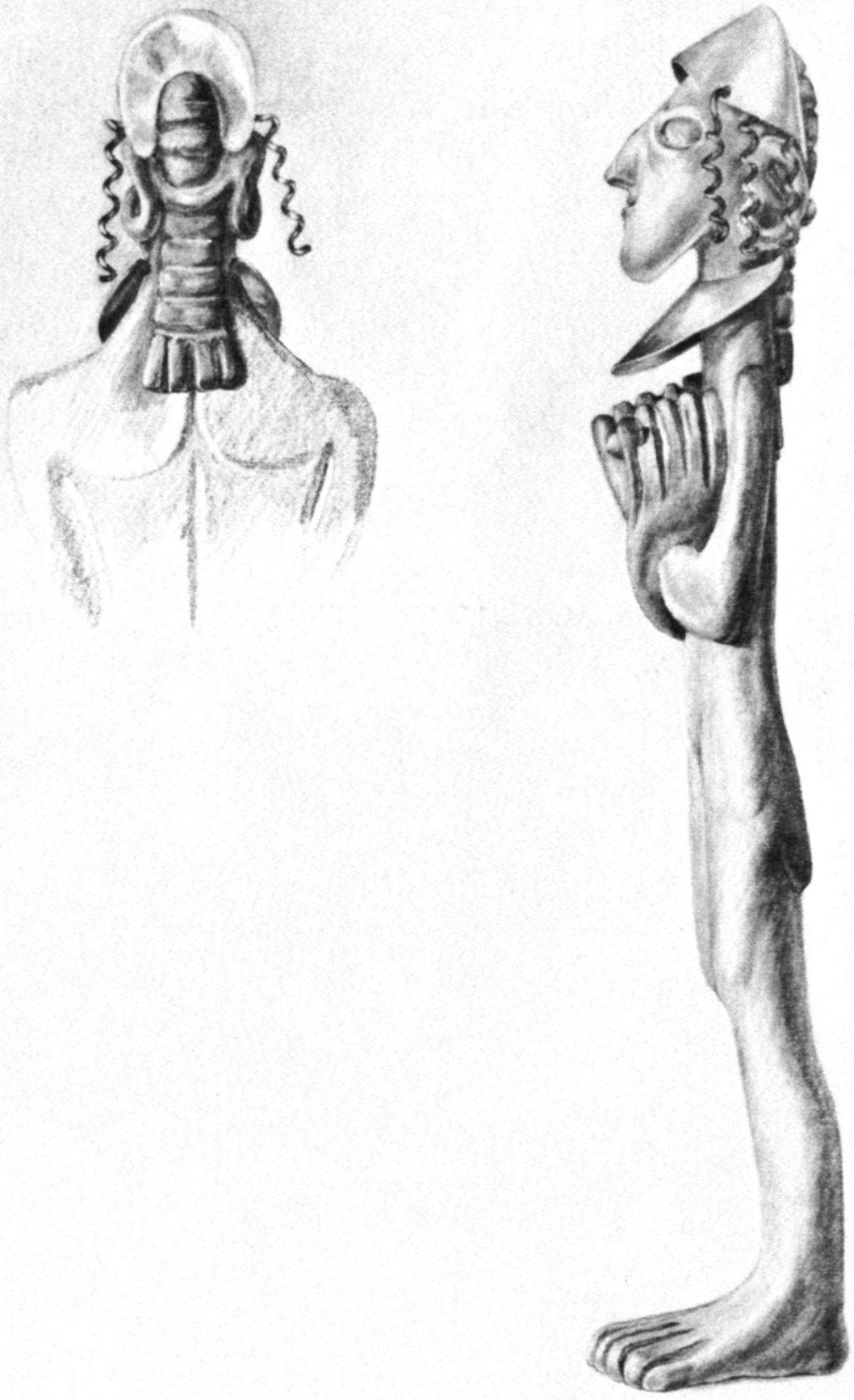

FIG. 243.—PHASE G. RESTORATION OF FIGURINE *D*. ACTUAL SIZE

FIG. 244.—PHASE G. RESTORATION OF FIGURINE *E*. ACTUAL SIZE

FIG. 245.—PHASE G. RESTORATION OF FIGURINE *F*. ACTUAL SIZE

(see p. 315). These fragments cannot all be referred with surety to a specific figurine. Plate 56 *d* illustrates selected fragments of the silver alloy; these are mentioned individually in the foregoing descriptions of the figurines.

The original clump also contained fragmentary remains (x5105*G–N*) of at least six miniature weapons, which (considering their size and association) can only be the objects originally held in the hands of the male figurines. Unfortunately the shafts of these maces and spears were badly oxidized, and in only one case is the original length certain. However, there are enough odd pieces to support spear shafts (and perhaps mace shafts) of considerable length and to account for an extra pinlike object for which no termination was recovered. The best preserved of the miniature weapons are illustrated in Plate 56 *c;* the lot includes the following pieces:

1. Complete mace (Pl. 56 *c*, right). The head is pearoid, with the greatest diameter toward the top. A knoblike projection on top of the head suggests the battered head of some form of wedge driven in to hold it on the shaft.

2. Fragmentary mace (x5105*I*), with head appreciably larger than that of No. 1. The head is broken and badly oxidized but appears to have been pearoid if the flaring upper end of the shaft is taken into account. A knoblike projection is present on top of the head.

3. Fragmentary mace (Pl. 56 *c*, right center) of the same general proportions as No. 2. The shaft fits against the head in the position shown, giving the head a distinctly ovoid appearance. The knoblike projection is not distinct.

4. Spear (Pl. 56 *c*, upper left), with quite fragmentary shaft and somewhat oxidized head. The head has properly flaring wings, but whether they terminated in barbs is impossible to say. Probably the head originally had a central ridge.

5. Spear (Pl. 56 *c*. upper left center), with smaller head and fairly intact shaft. The present butt end may actually be the original end; it seems to be rounded, but, since this part of the shaft is badly oxidized, the rounding may result from erosion.

6. Very fragmentary piece (x5105*L*), most probably a spear with head almost as large as that of No. 5. The head (if it is that) apparently was not barbed originally. There is, on the other hand, a sort of ridge on each face somewhat off-center.

7. Two fragments (Pl. 56 *c*, lower left and left center) apparently belonging to weapon shafts. They are the longest fragments but do not make convincing joins in their present state.

In the restored drawing of figurine *A* (Fig. 240) an attempt is made to suggest spear No. 4, but the shaft is purposely left short so as not to obscure the body. In Figures 241 and 242, the spears are not shown in detail at all. It is not in fact possible to associate spear No. 4 with figurine *A* itself, nor is it certain whether the spears were held point up or point down.

It may be remarked that the pearoid form of macehead is at home in Phase G (see p. 324). The ovoid appearance of the head of No. 3 may be due to oxidation of some metal at the head of the shaft (cf. description of upper end of shaft No. 2). No full-sized parallels for the miniature spearheads are available from Phase G, but both barbed and apparently plain winged spearheads were present in a cache of Phase H metals from JK 3:11 (see Fig. 293:3–4 and p. 376).

Spectrographic Analyses

REAMERS

x2654 Major: copper; strong: iron; minor: arsenic, lead, nickel; other traces weak

x2727 Major: copper; strong: silicon; minor: arsenic, calcium, tin; other traces weak

x2743 Major: copper; strong: calcium, phosphorus, silicon; minor: arsenic, tin; other traces weak (Fig. 239:1)

x2880 Major: copper, tin; strong: silicon; minor: arsenic, phosphorus; other traces weak

x3098 Major: copper, iron; strong: arsenic; minor: nickel, cobalt (Fig. 239:5, Pl. 52:7)

x3169 Major: copper; strong: arsenic, iron, silicon; minor: nickel, phosphorus, tin; other traces weak
x3404 Major: copper; minor: arsenic, nickel; other traces weak (Fig. 239:3)
x3486 Major: copper; minor: arsenic; other traces weak (Fig. 239:2, Pl. 52:8)
x3531 Major: copper; strong: arsenic, nickel; minor: lead, phosphorus; other traces weak (Fig. 239:4)

PINS

x2742 Major: copper; strong: nickel, silicon; minor: arsenic, calcium, lead; other traces weak (Fig. 239:7, Pl. 53:15)
x2962 *Crust.* Major: copper, iron, silicon; strong: sodium; minor: calcium; other traces weak. *Core.* Major: copper; strong: iron, tin; minor: arsenic, lead, phosphorus; other traces weak (Fig. 239:11, Pl. 53:4)
x3054 Major: copper; minor: nickel, lead; other traces weak (Pl. 53:7)
x3275 Major: copper; minor: arsenic, nickel, phosphorus; other traces weak (Fig. 239:8)
x3311 Major: copper; minor: arsenic, nickel; other traces weak (Fig. 239:10)
x3316 Major: copper; strong: iron; minor: arsenic, nickel; other traces weak (Fig. 239:12)
x3415 Major: copper; minor: arsenic, cobalt, nickel; other traces weak (Fig. 239:9, Pl. 53:5)

NECKLACE?

x2961 Major: copper; minor: aluminum, arsenic, calcium, phosphorus, silicon, sodium, tin; other traces weak (Fig. 239:13, Pl. 52:13)

SLAG ADHERING TO SHERDS

x3024 Major: copper, iron, silicon; strong: nickel, tin; minor: arsenic, calcium, lead; other traces weak
x3499 Major: calcium, copper, magnesium, silicon; strong: aluminum, iron; minor: arsenic, cobalt, nickel, phosphorus, sodium; other traces weak

MISCELLANEOUS FRAGMENTS

x2653 Major: copper, silicon; strong: calcium; minor: aluminum, arsenic, iron, magnesium, nickel, phosphorus, tin; other traces weak
x2744 Major: copper, silicon, tin; minor: calcium, iron, phosphorus, silver; other traces weak
x2788 Major: copper, tin; minor: aluminum, arsenic, calcium, iron, magnesium, nickel, phosphorus, silicon; other traces weak
x2853 Major: copper, silicon; minor: aluminum, calcium, iron, magnesium, nickel, phosphorus, sodium; other traces weak
x2960*a* Major: copper, silicon; strong: arsenic, tin; minor: antimony, iron, lead, magnesium, manganese, phosphorus; other traces weak
x2960*b* Major: copper, iron, silicon; strong: aluminum, calcium; minor: boron, chromium, magnesium, manganese, sodium; other traces weak
x2960*c* Major: copper, silicon; minor: aluminum, arsenic, iron, phosphorus, tin; other traces weak
x3048 Major: copper; minor: nickel; other traces weak (Fig. 239:6)
x3093 Major: copper, silicon; minor: aluminum, iron, magnesium, phosphorus; other traces weak. *Less corroded end.* Major: copper; other traces weak
x3100 *White sandy material.* Major: aluminum, calcium, iron, silicon; minor: chromium, magnesium, sodium, titanium; other traces weak. *Charcoal-like material.* All traces weak. *Core.* Major: copper; other traces weak. *Powder.* Major: calcium, copper, silicon; strong: phosphorus; minor: aluminum, magnesium; other traces weak
x3250*a* Major: copper, silicon; minor: aluminum, arsenic, calcium, iron, magnesium, nickel, phosphorus; other traces weak
x3250*b* Major: copper, silicon; strong: tin; minor: arsenic, calcium, iron, magnesium, nickel, phosphorus; other traces weak
x3264 Major: copper, silicon, tin; minor: arsenic, calcium, iron, lead, magnesium, nickel, phosphorus; other traces weak

x3320 Major: copper, silicon; minor: aluminum, arsenic, calcium, iron, nickel, phosphorus; other traces weak

x3410 Major: lead; strong: copper; other traces weak (Fig. 239:14)

CACHE OF FIGURINES

Figures

x5105 *A* Major: copper, tin; minor: iron; other traces weak (Fig. 240, Pl. 57)

B Major: copper, tin; other traces weak (Fig. 241, Pl. 58)

C Major: copper, tin; other traces weak (Fig. 242, Pl. 59)

D Major: copper, tin; minor: arsenic, nickel, silicon; other traces weak (Fig. 243, Pl. 61)

E Major: copper, tin; minor: iron; other traces weak (Fig. 244, Pl. 62)

F Major: copper; strong: tin; minor: arsenic; other traces weak (Fig. 245, Pl. 64)

Miniature Weapons

x5105 *G* Major: copper; strong: tin; minor: arsenic, iron, silicon, sodium; other traces weak (Pl. 56 *c*, right)

I *Shaft.* Major: copper; strong: tin; minor: calcium, phosphorus, silicon; other traces weak. *Head.* Major: copper; strong: silicon, tin; minor: iron, lead; other traces weak

J Major: copper; strong: tin; minor: arsenic, lead, silicon, sodium; other traces weak (Pl. 56 *c*, upper left)

K Major: copper; strong: tin; minor: silicon, sodium; other traces weak (Pl. 56 *c*, upper left center)

L Major: copper; strong: tin; minor: silicon; other traces weak. *Another fragment.* Major: copper; strong: tin; minor: silicon, sodium; other traces weak

M Major: copper; strong: tin; minor: lead, nickel, phosphorus, silicon, sodium; other traces weak (Pl. 56 *c*, lower left center)

N Major: copper; strong: tin; minor: silicon, sodium; other traces weak (Pl. 56 *c*, lower left)

Accessories

x5105 *O* Almost spherical fragment. Major: calcium, iron, silicon, sodium; strong: aluminum, titanium; minor: chromium, copper, magnesium, manganese, nickel, tin, uranium; other traces weak

P Rodlike fragment. Major: copper; strong: tin; minor: silicon, sodium; other traces weak

Q Rodlike fragment. Major: copper; strong: tin; minor: arsenic, lead, nickel, silicon, sodium; other traces weak

R Sheet fragment. Major: copper, silver; strong: gold; other traces weak

S Sheet fragment. Major: calcium, copper, silver; minor: iron, silicon, sodium; other traces weak

T Sheet fragment. Major: calcium, copper, silver; strong: chromium, gold; minor: silicon, tin; other traces weak

U Curl fragment. Major: copper, silver; minor: bismuth, gold, tin; other traces weak

V Curl fragment. Major: copper, gold, silver; minor: bismuth, tin; other traces weak

W Curl fragment. Major: copper, silver; strong: gold; minor: bismuth, silicon, tin; other traces weak

X Square-sectioned wire. Major: copper, gold, silver; minor: bismuth, chromium, lead, silicon, tin; other traces weak

FLAKED STONE OBJECTS

The Phase G flints are treated by Mrs. Payne (pp. 533–37) as part of the Cananean industry, which begins in Phase F and is characterized by Cananean blades (see Fig. 246:12–14[21]).

[21] Shown with bulbar tips at bottom as opposed to our usual practice of showing them at top.

A few comments with respect to the Phase G flints are given here. The Phase G exposures were relatively large, but the quantities of flint (279) and obsidian (63) artifacts are relatively small. Although the same types of implements are made as in earlier times (see Table V), metal is definitely replacing flint.

Javelin Heads

Javelin heads, surprisingly, seem fairly common in Phase G.[22] Only one fragment was definitely out of the context in which it originated, and it may well have been reused during Phase G. It is a slender body fragment, with fluting retouch on the upper face, that was made during Phase A or B.[23] The retouch on the Phase G examples is not especially good in comparison to that of earlier examples. There is little upper-face retouch except on the tang. In one specimen (Fig. 246:8) the upper-face retouch extends up much higher than is usual. Three examples have a short pointed tang. In two of these the tang terminates in slight wings (Pl. 65:17), and there is rough retouch on both faces of the tang and bits of rough nibbling extending up along the edges of the body on the upper face. The third example has no wings. This is the only javelin head with the tip partially intact. Rough steep retouch on the upper face outlines the tip and extends down the edges of the body and covers most of the tang. On the bulbar face coarse flat retouch covers much of the tang and apparently covered the very tip of the projectile point. The only other tangs that are complete or fairly complete are broad (Fig. 246:4, 8).

Sickle Blades

Of the one hundred sickle blades, seventy-five are on Cananean blade sections (22 bulbar tips, 43 middle sections, 10 end sections) and twenty-five on more slender blade sections.

The Cananean sickle blades are on the whole somewhat broader than those of Phase F. The width ranges from 20 to 41 mm., with an average of 27 mm. The greatest length is 137 mm., which occurs in two examples (137 × 36 × 10 and 137 × 28 × 9 mm.). The shortest example measures 25 × 21 × 8 mm. The average length is 67 mm.,[24] the average thickness 7 mm. It is impossible to say whether the shorter ones are fragments of longer examples. Since there are so many, it seems more likely that the shorter ones were used at their present lengths to fill in gaps in the hafting. Thirty of the Cananean sickle blades have sheen on both edges (Fig. 246:12–13). There is little retouch other than that used to denticulate. A few have steep rough retouch on one end, and a few have steep retouch along part of the back and in some cases along one end as well (Pl. 66:4). The denticulation is formed by bulbar-face retouch in the majority (30 examples; e.g. Fig. 246:12); the remainder are divided fairly evenly between upper-face retouch, alternate retouch (Fig. 246:13), and no retouch. A dozen or so are denticulated by use only, and the working edge tends to be rather rough and uneven, often nicked (see left edges of Fig. 246:12 and 14); the remainder are denticulated (in almost equal numbers) by either nibbling or flat retouch. The flat retouch usually extends back into the blade a bit and thus is often fairly steep. In the nibbled examples the teeth tend to be pronounced but rather fine, regular, and closely spaced (see right edges of Fig. 246:12–13). Some of the examples with flat retouch tend to have larger teeth, irregular in size but fairly closely spaced (see left edge of Pl. 66:4). However, much of the flat deeper retouch is quite rough, and a good many of the edges thus formed tend to be rough, uneven, and even fairly jagged (see left edge of Pl. 66:3).

[22] See pp. 476–78 for projectile points from Dhahab that may possibly be part of the Phase G assemblage.

[23] Two fragmentary obsidian javelin heads (described on p. 536) also must have originated in Phase A or B.

[24] Four examples are in the 100's, 5 in the 90's, 9 in the 80's, 9 in the 70's, 20 in the 60's, 13 in the 50's, 9 in the 40's, 5 in the 30's, and 1 is in the 20's.

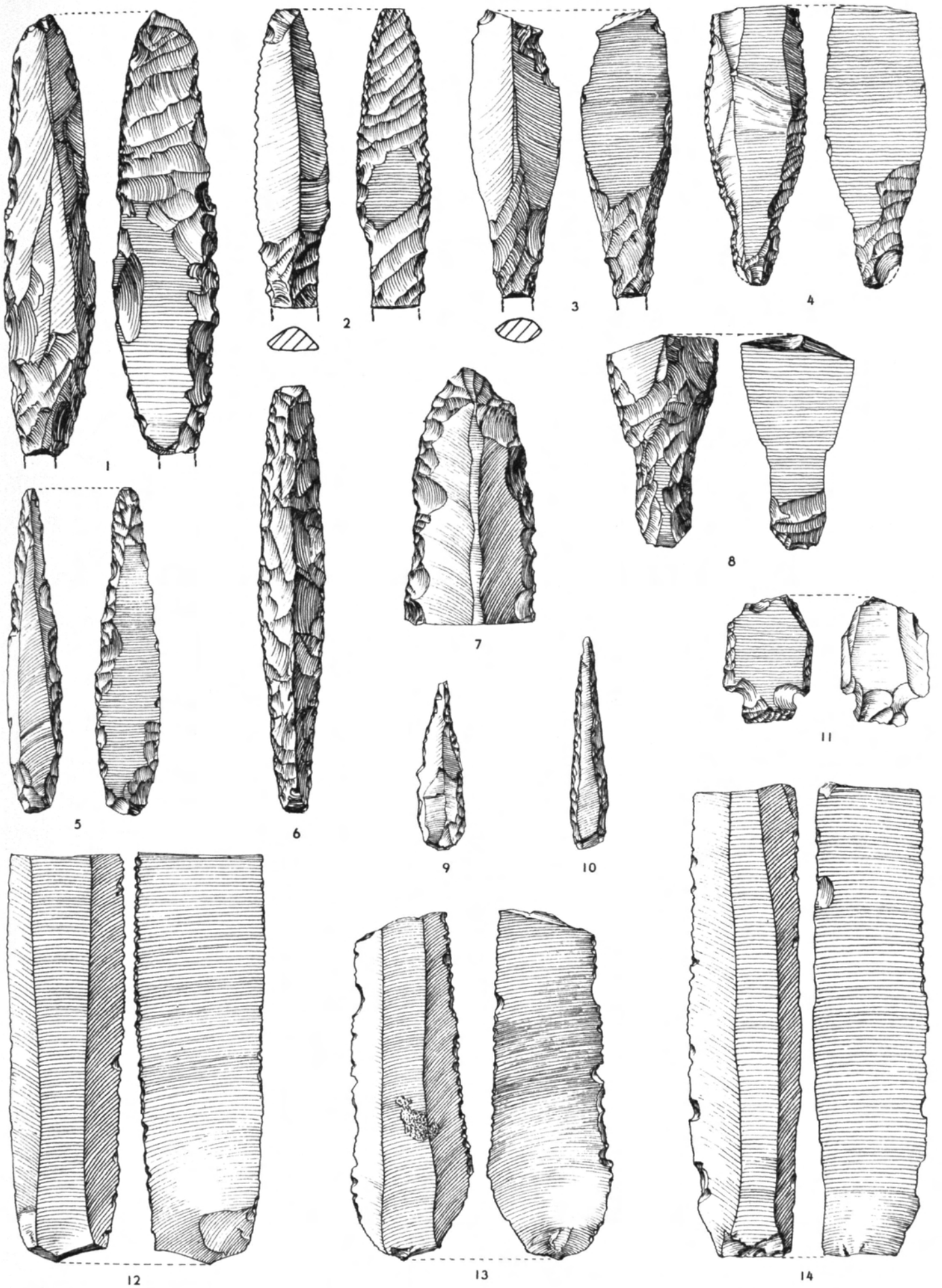

FIG. 246.—PHASE G. FLINTS. ACTUAL SIZE

The remaining twenty-five sickle blades, which are mainly on middle sections, vary in size from 27 × 11 × 4 to 59 × 12 × 5 mm., but average 39 × 15 × 5 mm. Many are trapezoidal in section, and a few of these may have come from the lower ends of narrow Cananean blades. Most of them have been used along one edge only. The denticulation is pronounced but quite fine and regular in most of the examples, but quite a few have larger irregular teeth produced by coarse steep retouch. Bulbar-face retouch to form the denticulation is slightly preferred to upper-face retouch. Some are denticulated by use. A few, as suggested by their size and appearance, might be of Phases A–B and may well be extrusive.

Blades

Only one of the few intact blades is Cananean. It is very crude and one of the first blades removed from the core, for it has cortex adhering to it and is not typical in size (83 × 25 × 8 mm.); most of the whole Cananean blades must have been much longer. The rest of the blades are small and mostly crude, but with plain battered striking platform.

Blade Sections

The blade sections are divided almost equally between bulbar tips, middle sections, and end sections. Only seven of the bulbar tips are Cananean, and two of these are surprisingly slender (13 and 16 mm. wide). The other bulbar tips are on the whole rather slender, though a few are fairly broad; the plain striking platform is battered and usually small. Many are trapezoidal in section (as are the majority of middle and end sections), but the central ridge is not removed as in the Cananean blades to leave a negative bulb at the bulbar tip. In fact, this facet does not usually extend entirely up to the bulbar end and in many cases seems to have been removed from the opposite end of the core. Only sixteen of all the sections, including all but the two very slender bulbar tips, are parts of good broad Cananean blades. It certainly looks as though the main purpose of producing broad Cananean blades was to make sickle blades. Quite a few of the narrower middle and end sections also may be from Cananean blades, but it is hard to tell. A few of the sections that are not definitely Cananean are fairly long (in the 70's and 80's), but the bulk are in the 40's and 50's and a few are shorter. The width varies from 10 to 27 mm., averaging 17 mm. Most of the sections show signs of use along the edges.

Scrapers

In addition to the rough fan-scraper fragment described on page 535 (Pl. 66:6), there is another scraper made on tabular flint (Pl. 66:5). It is triangular, with rather rough steep retouch all around the edges. The bulb itself and all evidences of the striking platform are removed. A scraper made on a portion of a large thick flake is also triangular, with the longest edge slightly convex and smoothly retouched.

GROUND STONE OBJECTS

Vessels

Half of the ten fragments are too small or featureless to give any clue as to the shapes of the vessels and therefore are not illustrated. The other fragments, in the main, represent small shallow containers.

A thin-walled saucer-like dish with thin rounded lip (Fig. 247:1) is quite smoothly ground; tool marks are still in evidence, and only the interior has a bit of polish. A small cup (Fig. 247:2, Pl. 67:1) with rounded lip had a very thick, probably rounded, base. The surface of the fragment is fairly smooth, with a small amount of polish, but shows the tooling marks clearly. A simple animal head carved at the outer rim probably served as a handle. A fragment of a flattened base (Fig. 247:3) probably represents a rather deep bowl. It is smoothly ground

but shows fine striations (tool marks) and is slightly polished on both the interior and the exterior. A small asymmetrical vessel is oval in plan (Fig. 247:4). It is crudely made; the surfaces were pecked into shape and received little grinding. The bottom is slightly polished from use. The shape and general crudeness of the container suggest that it served as a hand mortar, but there are no traces of coloring matter. An extremely large container with simple rounded lip and base (Fig. 247:5) may or may not have been round in plan. It was roughly pecked into shape. The lower interior surface, although pitted, is fairly smooth, perhaps from use. Despite the shape suggested by the fragment, it seems likely that the vessel was used as a mortar for the grinding of flour.[25]

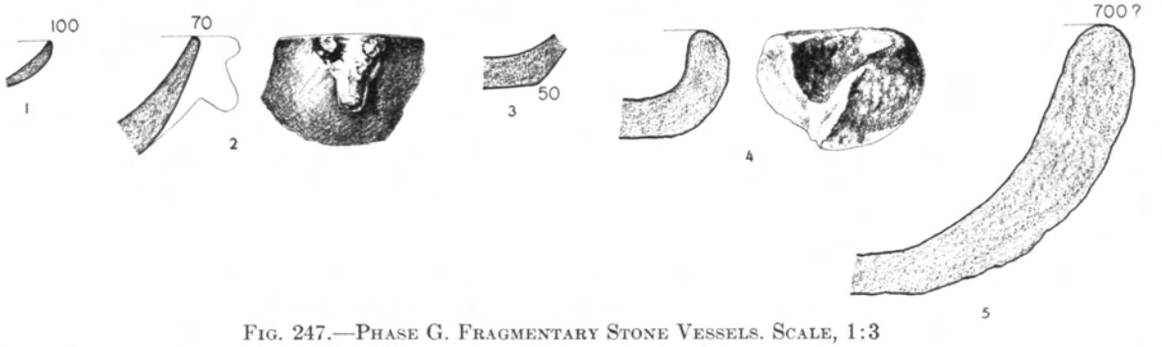

FIG. 247.—PHASE G. FRAGMENTARY STONE VESSELS. SCALE, 1:3

The remaining vessel fragments are smoothly ground and polished, for the most part still exhibiting traces of the original tool markings. Three (x2811, x3387, x3399) are of chlorite-rich greenstone. An unusually well finished fragment of pale green calcite (x3327) would seem from its thickness to belong to a bowl. A tiny rim fragment of soft red stone (x3377) has a flattened lip; a narrow groove around the edge decorates the rim.

CELTS

The twenty-five tools, in the main, are carefully and symmetrically shaped, smoothly finished by grinding and polishing.

The two large examples, both made of diabase, are symmetrically shaped and carefully finished by grinding and polishing. Both are rectangular in transverse section and more or less rectangular in plan. One (Fig. 248:1) is an ax. The faces are asymmetrically beveled, but the beveling is poorly defined. The working edge is convex and sharp but much chipped by use. The other large celt (x2845; l. 59+, gr. w. 52, gr. t. 22 mm.) was probably also used as an ax, though it is impossible to be sure, for the working edge is missing. The butt end is squared off by grinding but is not polished. Because so much of the celt is missing it is uncertain whether the faces were beveled or merely tapered to the working edge.

The six medium-sized tools are with one exception (Fig. 248:2) carefully shaped. Only three are polished over the entire surface; the others are polished on the areas surrounding the working edge. Four seem to be axes (Fig. 248:2–4), and one (x3164) possibly was used as an adz; the sixth (x3138) consists only of a working-edge fragment and might be either. The average dimensions are 67 × 39 × 20 mm. Two of the axlike tools are rounded in transverse section, one (x3202) being more nearly oval than the illustrated specimen (Fig. 248:2). They are somewhat triangular in plan, with rounded butt. They have no definite beveling of the faces, which slope equally to the sharp working edge. The working edge of x3202 is straight and much chipped by use. The remaining tools were no doubt more or less rectangular in transverse section and plan, with squared butt. In two the faces seem to slope to the working edge

[25] A boulder mortar and a saddle quern also were found in Phase G (see p. 260 and Pl. 8 *A*); unfortunately there are no detailed drawings or close-up photographs of these objects.

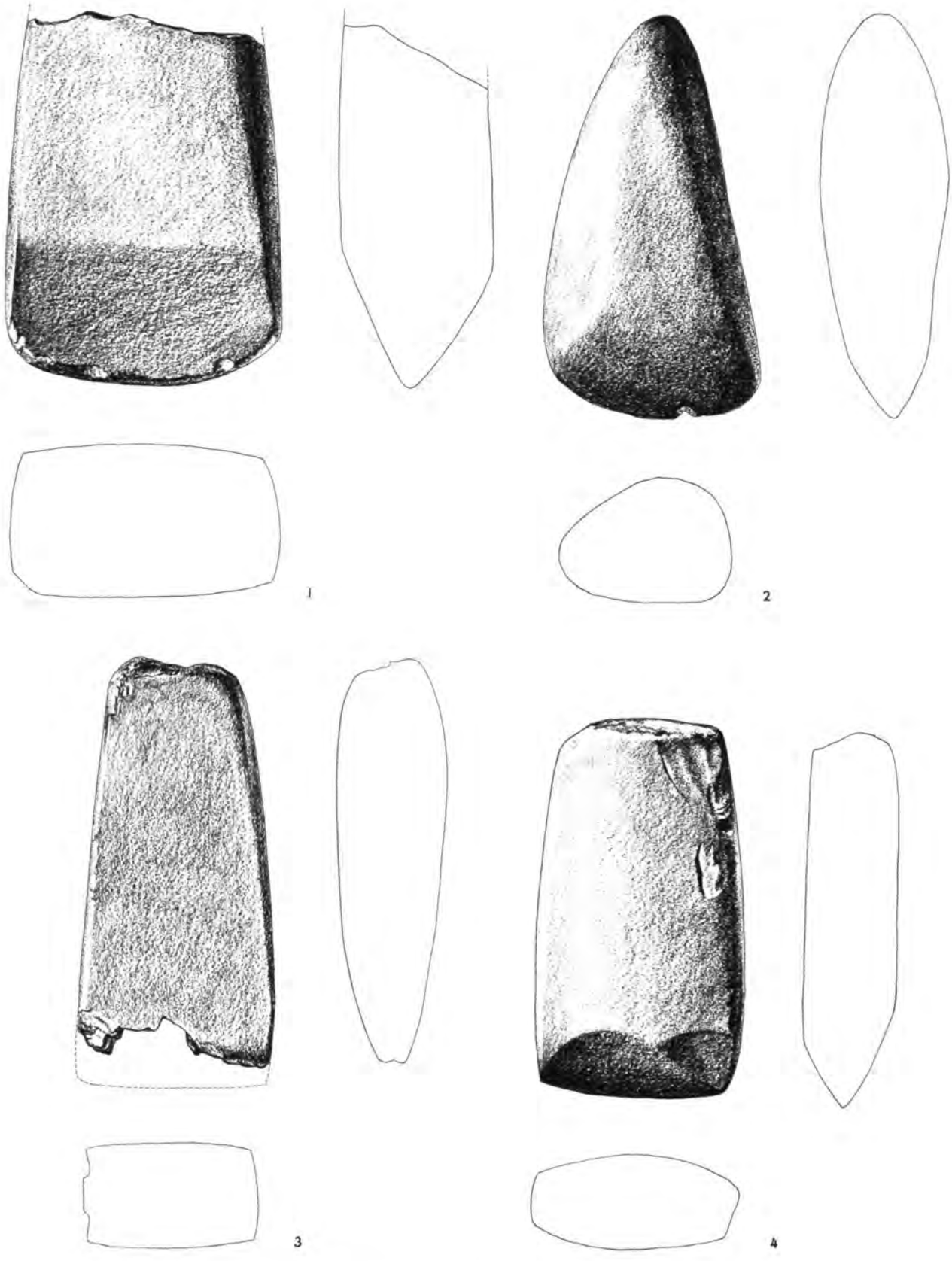

FIG. 248.—PHASE G. LARGE (*1*) AND MEDIUM-SIZED (*2–4*) CELTS. ACTUAL SIZE

with no marked change of plane (Fig. 248:3). Another (Fig. 248:4) has poorly defined beveling of rounded outline on one face; the other face merely slopes to the working edge. Although its profile is axlike, it was perhaps used as an adz, for the signs of use (chipping) are on only one side (not shown) of the working edge. The three more or less intact working edges are slightly convex, sharp, and, in two cases, much chipped by use. In one example (x3164) the working edge was resharpened by chipping along both sides of the edge.

The majority of the seventeen small tools are carefully shaped. All are ground and polished over the entire surface; in six, however, the surface shows pitted areas. The edges are sharp and show signs of use. Five have narrow chisel-like working edge. The others are more or less axlike in profile; none are strongly adzlike, but in two (x3163, x3189) the working-end portion is missing and the profile cannot be reconstructed.

The average dimensions of the axlike tools are 39 × 24 × 11 mm. The majority are rounded rectangular in transverse section, with the faces tending to be slightly convex, and either trapezoidal (Fig. 249:1–2, 5) or approaching the triangular (Fig. 249:3–4) in plan. No. 1 (Pl. 69:12), a very handsome tool, is the only example that shows no beveling of the faces, which slope equally to the sharp working edge. The beveling on the others is for the most part poorly defined. In one example (x3204), a well made tool, both faces have asymmetrical beveling parallel to the working edge. Two have poorly defined beveling parallel to the working edge on one face, and the other face merely slopes gently to the working edge (Fig. 249:5). Two others have poorly defined beveling of rounded outline on one face and slight beveling parallel to the working edge on the other face (Fig. 249:2, Pl. 69:11). A third tool (Fig. 249:8) has the same type of bevel, but it is sharply defined on both faces. The grooving on No. 2 may represent an attempt to bisect the tool to form two chisels. In two examples (Fig. 249: 3–4) each face has faint symmetrical beveling of rounded outline. The working edge of No. 3 is markedly oblique.[26] No. 4 (Pl. 69:15) is the smallest example of the axlike group. The remaining three examples (x3163, x3189, x3535) are too fragmentary to indicate beveling or ack of it.

Three of the five chisels approach the triangular in plan (Fig. 249:6–7); the other two (x3045, x3248) are incomplete. All but one (Fig. 249:7) are rectangular in transverse section. The tools average 37 × 14 × 8 mm. in size and are adzlike in profile. In two, one face has poorly defined beveling parallel to the working edge and the other face tapers to the working edge (Fig. 249:6). One example (x3045) has fairly well defined beveling parallel to the working edge on one face and poorly defined oblique beveling on the other face. In another example (x3248) the beveling on one face is marked and somewhat rounded in outline; the reverse face has straight oblique beveling. The last example (Fig. 249:7) has well defined beveling of rounded outline on one face; the other face is pitted but seems to taper slightly at the working-edge end. Perforation of the butt was started from each face but not completed. This object may originally have been intended as a pendant.

Whorls

There are five whorls.[27] Two are plano-convex in section (Fig. 249:9–10, Pl. 69:2). A third (Pl. 69:3) approximates No. 9 in size and shape, but its perforation has a larger diameter (15 mm.). One example (Pl. 69:14) is subhemispheroidal in elevation (diameter of perforation not known). These are all quite carefully shaped. They are finished by grinding and some polishing but still exhibit some original tool marks. The fifth whorl (Fig. 249:11) has an

[26] Oblique working edges occur in earlier phases also, beginning with Phase A. It may or may not be significant that there are quite a few examples in Phase G (Fig. 249:1–3 and x3140, also Fig. 248:2 and x3164 of the medium-sized group).

[27] Not including an uncatalogued object (x2770) which is registered as a spindle whorl.

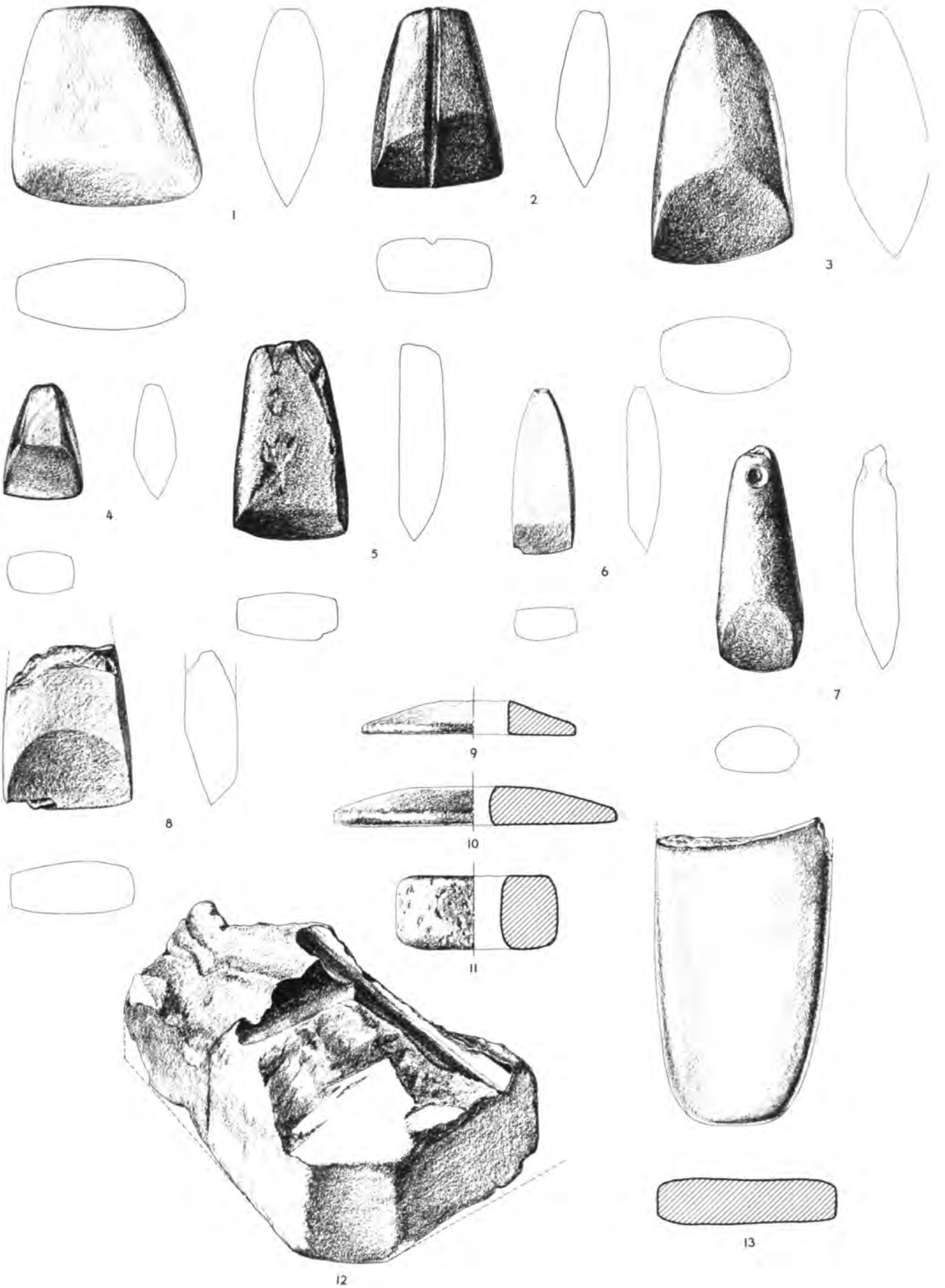

FIG. 249.—PHASE G. SMALL CELTS (*1–8*) AND OTHER GROUND STONE OBJECTS (*9–13*). ACTUAL SIZE

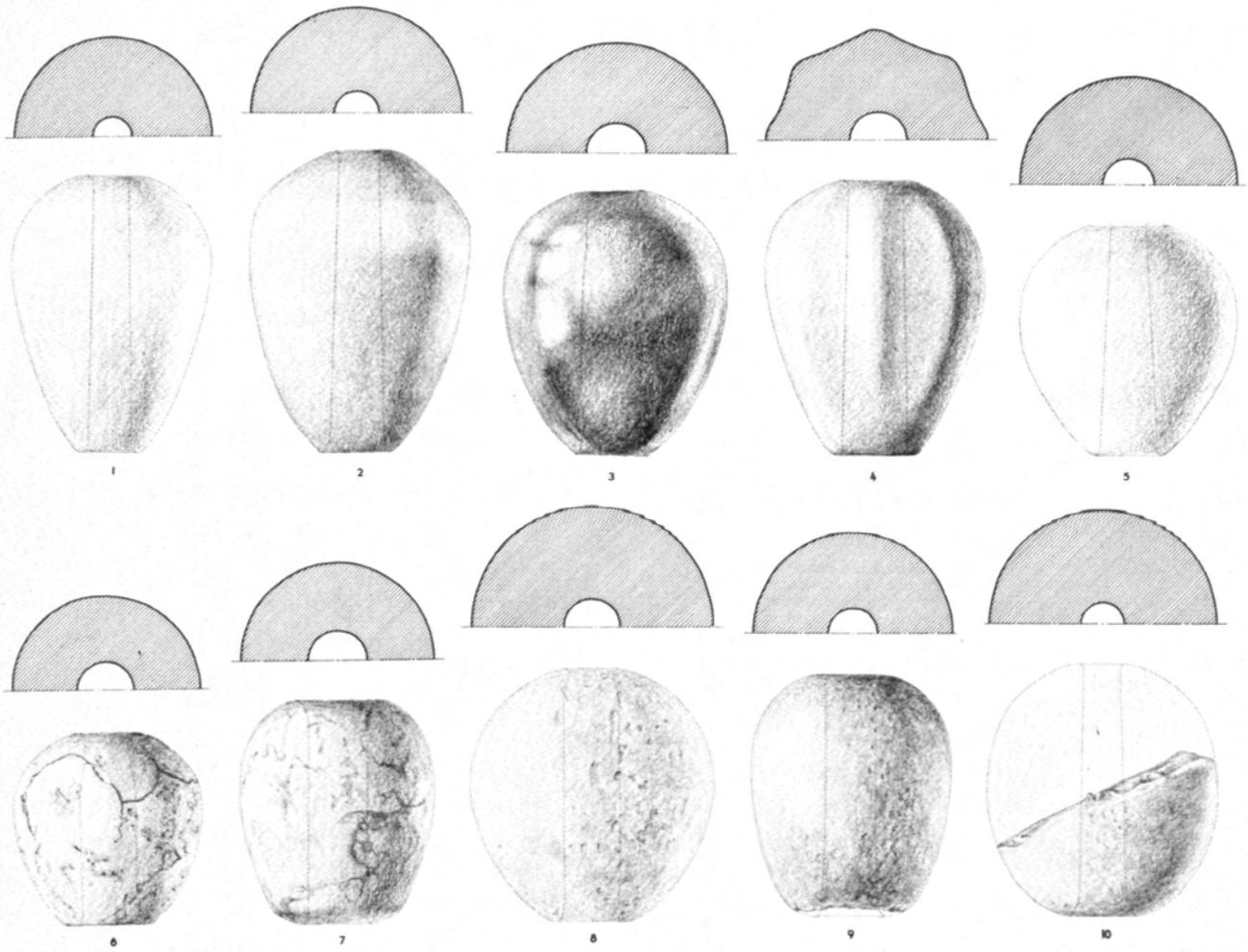

FIG. 250.—PHASE G. MACEHEADS. SCALE, 1:2

unusual shape. It is ringlike and more or less round in plan. The surface is smoothly ground but shows the pitting usual in basalt.

POLISHER?

This object is a portion of a roughly rectangular block of chlorite-rich greenstone (Fig. 249: 12, Pl. 67:9). The intact sides and the lower surface are more or less smoothed by grinding. Two well polished intersecting grooves (d. 10 mm.) on the upper surface are covered with exceedingly fine longitudinal striations. The abrupt and ragged terminations of the grooves suggest that the object was broken after the grooves were made.

WHETSTONES?

Two fragments of the same type and general dimensions (Fig. 249:13) are smoothly ground and polished.[28]

MACEHEADS

The majority of the eleven examples are smoothly ground and polished and quite handsome. The surfaces of three (Fig. 250:8–10) are smoothly ground but still pitted. Although

[28] In addition, two uncatalogued objects (x3498, x3736) are registered as fragmentary whetstones, one (x3498) with a perforation at the end.

some of the examples are more slender, elegant, and pearoidal than the others, in most the maximum diameter is well above the center. The perforations vary somewhat in size, but all taper from bottom to top. One macehead has a fluted appearance (Fig. 250:4, Pl. 68:2); eight accentuated ribs run from the perforation at the top and merge into the side *ca.* 20 mm. from the bottom. In two cases (Fig. 250:2–3, Pl. 68:1, 4) a longitudinal half is blackened, probably by fire. Both of these were part of a cache (see p. 344). The broken surface of another macehead (Fig. 250:10) shows some polish from use (as a rubber?) but is also badly nicked and chipped at the edges (by use as a pounder?). A beautifully polished fragment (x3470) is too small to give any indication as to the original shape.

Unclassified Objects

An end fragment of a perforated object (Fig. 251:4) is suggestive of a macehead because of its size, the grinding and polishing of its outer surface, and its well polished perforation. However, the asymmetry of the object and the broad flattened area around the end of the perforation as well as the largeness and untapered character of the perforation are traits not found in any of the recognizable maceheads of Phase G. Polish from use on the broken surface suggests reuse as a rubbing stone.

A prolate spheroid with a small hollowed-out circular depression at the top center (Fig. 251:2) is smoothly ground and shows a small amount of polishing. It has considerable weight.

An unfinished object (x3416) of subhemispheroidal shape (d. 36, h. 14 mm.) was probably intended as a stamp seal. The round flat base is smoothly ground. The domed upper part is roughly blocked out (in innumerable slightly defined planes) by grinding. Perforation was begun near the center top but not completed.

A disklike object of marble (Fig. 251:5), although smaller, is similar in shape to the rubbing(?) stones of Phases A and B. Both surfaces are ground and polished. The side, unlike those of the disks of A–B, is battered rather than chipped; a portion of the upper surface was broken off in antiquity. This object may have had some special function, for by and large marble was reserved for maceheads, beads, and the like.

A carefully ground and polished limestone object (Fig. 251:6) may have been used as a counter or, less probably, as a weight (12.2 gm.). Another object (x3265) is fairly similar in shape but represents two-thirds of a sphere (d. 33 mm., h. 22 mm., wt. 37 gm.). The rounded surface is ground and polished. The base is not ground but seems to be more or less smoothed by polishing on the high areas that form one plane; the rest of the surface is shallowly pitted. The function of a small smoothly ground and polished ball (x3079; d. 18 mm., wt. 8.2 gm.) is not known, nor is that of a cylinder (x3300; d. 10 mm., l. 21 mm. wt. 2.6 gm.) from which a small piece was removed at one end, perhaps preparatory to perforation or possibly (if the object was used as a weight) to lighten it. It is not known how early weights were in use in the ʿAmuq; therefore the weight of any object which might possibly have been so used is given. The only fairly certain weight is from the Second Mixed Range (see Fig. 377:5 and p. 482).

A fragmentary object of chlorite-rich greenstone (Fig. 251:8) had at least four shallow transverse grooves and a deeper lengthwise groove in its convex upper surface. The deeper groove continues along the unbroken end and the concave lower surface. This groove was probably made preparatory to dividing the object in two, but it was broken before the process could be completed. Bits of polish on the broken end show that the object was used in its broken state. Some use was certainly made of the stout chisel-like edge at the juncture of the longer side and the broken end.

Two fragments of hornblende-diabase may have belonged to palettes. Both are flat, with ground and smoothly polished surfaces. One (Fig. 251:7), with plano-convex section, is fairly

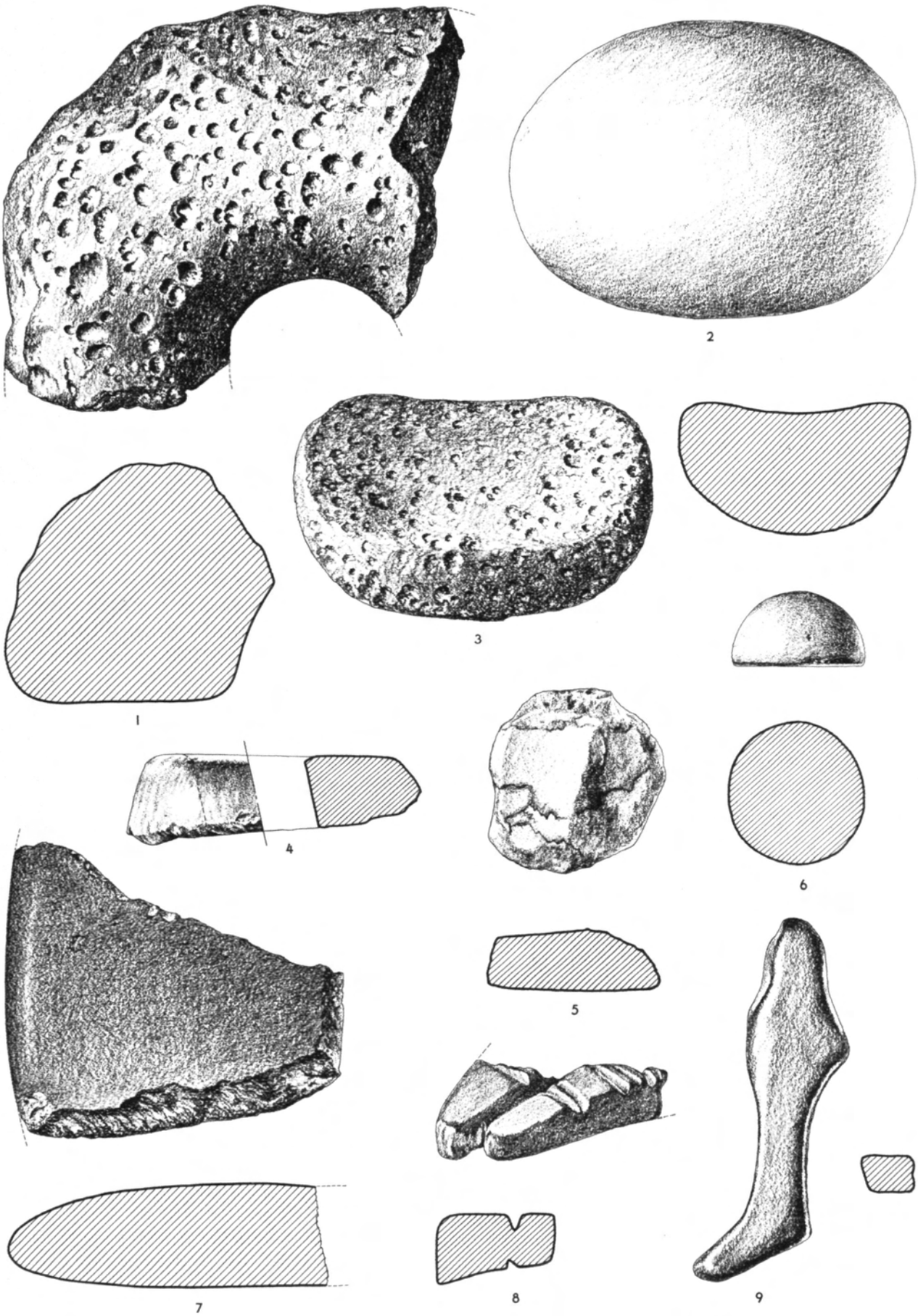

FIG. 251.—PHASE G. UNCLASSIFIED GROUND STONE OBJECTS. ACTUAL SIZE

large and apparently was round in plan (estimated d. *ca.* 250 mm.). The other (x5164; t. 10 mm.) was probably rectangular in section, with slightly rounded edges. Since the unbroken side is fairly straight, the original object was probably rectangular in plan.

An object of basalt (x3344) is triangular in plan (67 × 62 × 60 mm.) and plano-convex in section (h. 27 mm.). The surfaces, though still pitted, are smoothly ground. There is some polish, especially on the flat triangular base, which may have been used for rubbing. A basalt object with fairly rough surfaces (Fig. 251:3) is shaped like a miniature saddle quern (concave-convex section). The upper surface of a large ringlike object of basalt (Fig. 251:1) is roughly shaped but not smoothed; the flat base and the surface of the perforation (represented in drawing of section by slightly concave line at lower right) are quite smoothly ground. Polish from use on much of the base and around the upper edge of the perforation would seem to indicate that the object was turned on a pivot. A crudely shaped leg of low-grade schist (Fig. 251:9), though smoothed and polished, was very likely made from a waterworn pebble with most of the shape occurring naturally; the only portions which seem worked are the two concave edges beginning just below the bulge and outlining the lower leg.

Beads

The sixty beads[29] are made of a great variety of stones, most commonly chlorite-rich greenstone, carnelian, cliachite, and soapstone. Many types are represented, but the two most common are short circular beads and long beads with round transverse section. The majority are well made and handsomely finished. By and large, the perforation seems to be single-bored when the bead is disklike or short (diameter greater than perforation axis) and double-bored when the bead is long (diameter smaller than perforation axis). Four spacing beads appeared.

Four beads are more or less oblate spheroids (Fig. 252:1–2). The largest is 16 mm. in diameter and 9 mm. long, the smallest 9 mm. in diameter and 6 mm. long. No. 2 has an extremely large perforation; though asymmetrical, it is very handsome.

The largest of four disklike beads is illustrated (Fig. 252:3). The smallest is 8 mm. in diameter and 3 mm. long. Two of the examples (including No. 3) seem to have been made from pebbles that required little working save perforating and a bit of polishing.

There are twenty short circular beads. The side is straight, rounded, or slightly carinated. Eight are straight-sided and thus cylindrical. Three of these are of cliachite and very small with minute perforation (Fig. 252:4); they, along with three of the extremely small oblate beads of cliachite and kaolin (mentioned below), are similar to the small white beads (kaolin?) found in Phase F (cf. Fig. 190:1–2). One larger short cylindrical bead (x3207; d. 6, l. 1.5 mm.) of cliachite also has a small perforation. The largest short cylinder (Fig. 252:5), as well as two others of carnelian and one of chalcedony, has a larger perforation with a slight funnel-like depression at each end. This feature is quite common in carnelian beads, especially in short ones. Ten of the short circular beads are oblate with flattened ends and rounded side (Fig. 252:6). The largest measures 11 mm. in diameter and 6 mm. in length. Three in this group are made of carnelian. Five others are extremely small (d. *ca.* 4, l. *ca.* 2 mm.) with minute perforation (see above). Two short circular beads of carnelian have carinated side with slight midrib (Fig. 252:7). The example not shown (x3337) is the smaller of the two (d. 6, l. 3 mm.).

There are two biconical beads (Fig. 252:8), both well made. The example not shown (x3187) measures 17 mm. in diameter and 9 mm. in length.

An object with plano-convex section (Fig. 252:9) is more like a stamp seal than a bead in shape but is included here because it is so small and has no decoration.

[29] Two additional beads (x2140 and Fig. 296:8) may be from either Phase G or Phase H (see p. 385). For Phase G beads of other materials see pp. 296 and 341 ff.

Although there are fifteen long beads with round transverse section, only five are cylindrical. The largest (Fig. 252:10) is shown mainly for its size; its ends are rounded off. The other four are more slender, and their ends are squared (Fig. 252:11)—in two cases obliquely. The smallest of these measures 4 mm. in diameter and 13 mm. in length. Four long beads are neat barrels, all of about the same size. In two cases the ends are flattened (Fig. 252:12); in the other two, the side curves to meet the perforation. Six long beads bulge at the midpoint. In two examples of about the same size the bulge is angular, and the shape is biconical (Fig. 252:13). In three the bulge is rounded (Fig. 252:14); the largest of these is 12 mm. in diameter and 21 mm. long, the smallest is 8 and 17 mm. A broken bead (Fig. 252:15) with rounded bulge is collared.

There are nine flat beads. Three are short, with oval or lenticular transverse section. Two of these (Pl. 70:4, 7) are quite similar in size and shape, but the ends of one are notched. The third (Pl. 70:5) is slightly smaller and, though there are suggestions of notches at the ends, differs in that the side has a marked bulge at the midpoint. A long bead with flattened ends is slightly unusual in that it is rectangular in section (Fig. 252:16). Two incomplete beads were rather oval in plan and lenticular in transverse section (Fig. 252:17); the example not shown (x2786) is *ca.* 22 × 29 mm. and 5 mm. thick. A beautifully made bead of pink chalcedony has been reconstructed as symmetrical with a bulge at the midpoint (Fig. 252:18).[30] Two handsomely made beads are unusual in that they are pearoidal (Fig. 252:19–20).

Three of the spacing beads are rectangular in plan and in transverse section. Two of these have two perforations (Fig. 252:21); the specimen not shown (x3386) measures 27 × 11 × 6 mm. The third (11 × 7 × 4 mm.) has three perforations (Pl. 70:10). The fourth spacer (Fig. 252:22) has no sharp edges and is flattened oval in transverse section.

Pendants

The twenty-five stone pendants[31] are in the main very handsome, carefully shaped and neatly finished.

A simple but well finished pendant is rectangular in transverse section (Fig. 252:24). Another (x3289) is of the same general form but thinner (22 × 15 × 3 mm.). It is carelessly made; a broken edge shows the curve of an original perforation, but the present perforation is farther from the edge. A pendant with more regular plan is oval in transverse section (Fig. 252:23). It is neatly made. A simple well made drop-shaped pendant (Fig. 252:25) is round in section (see Fig. 190:8 for similar shape in Phase F). Another drop-shaped pendant (x2812; l. 18, t. 9 mm.), with rounded triangular transverse section, is smoothly finished but was probably made from a pebble that required little shaping. Three other drop-shaped pendants (Fig. 252:26, Pl. 71:4–5), all of mottled stone, have flattened elongated heads; the transverse section is round at the body and oval at the perforated head. Another type of drop-shaped pendant, represented by one well made example in stone (Fig. 252:27, Pl. 70:19),[32] has a pronounced waist separating the flat broad squared-off head from the lower portion. The surface of the body is slightly flattened on each perforated face, and the transverse section is thus rounded rectangular at the body and rectangular at the perforation. A roughly shaped but carefully polished pendant (Fig. 252:28) is not perforated but can be nicely suspended from the notched head. A solitary pendant of obsidian (Fig. 252:29), with concave-convex transverse section, is very thin and is smoothly ground on both surfaces; the under surface is also

[30] The reconstruction, with the fragment constituting one-fourth of the whole bead, is based on the double-bored perforation. In long beads, wherever evidence is available, the juncture of the borings is in the middle.

[31] See p. 296 for clay pendants and p. 338 for a probable bone pendant.

[32] See Fig. 238:2 for similar example in clay.

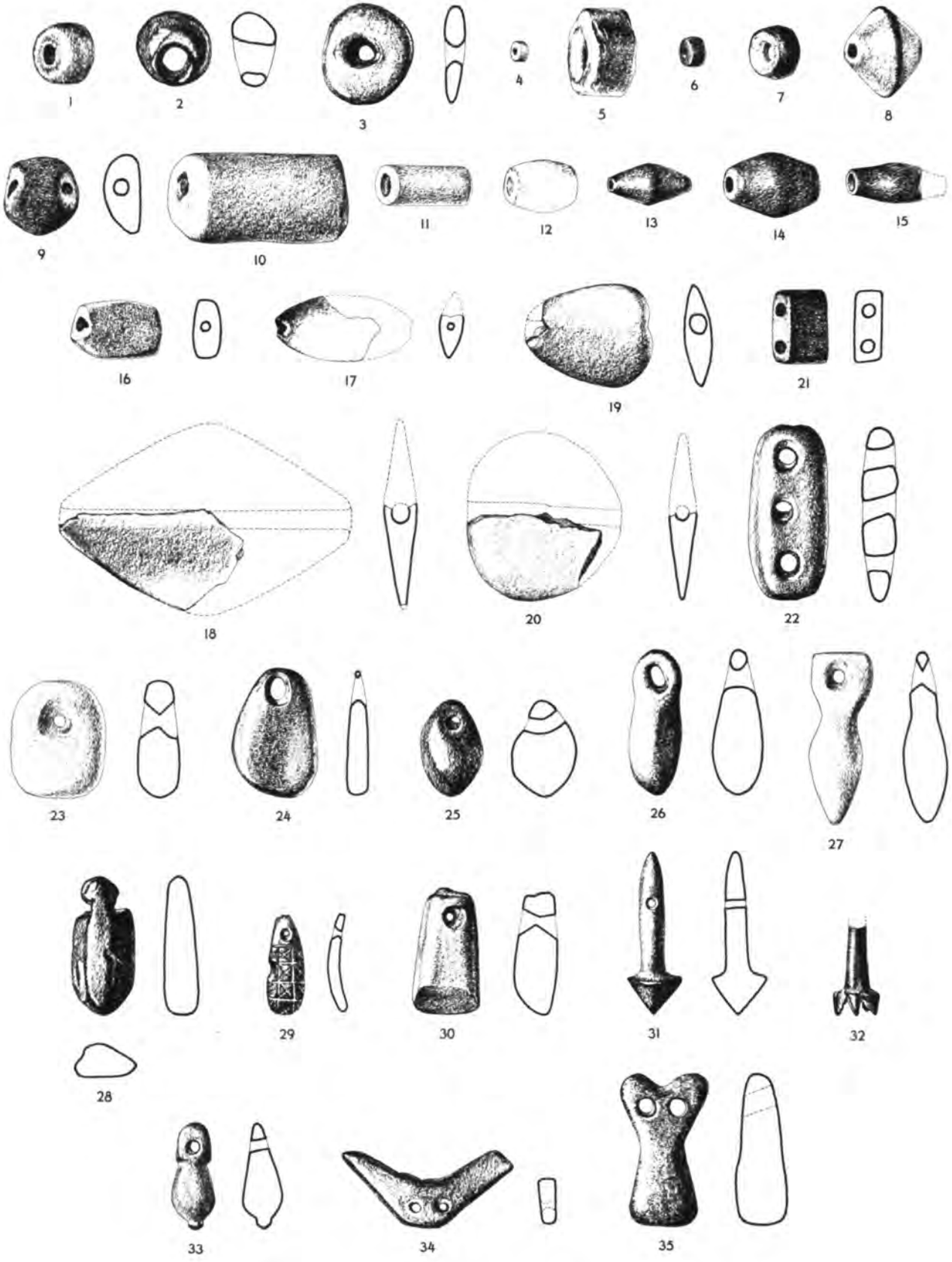

FIG. 252.—PHASE G. STONE BEADS AND PENDANTS. ACTUAL SIZE

polished. A carefully incised linear design decorates the upper surface. A celt-shaped pendant (Fig. 252:30, Pl. 71:2), with rectangular transverse section, has an adzlike profile. It is well made and smoothly finished with the exception of the head end, which is slightly bumpy but polished. The blunt lower edge shows no signs of use.

There are three handsome examples with a long slender oval-sectioned shaft terminated by an inverted cone (Fig. 252:31, Pl. 71:10). Possibly a fourth pendant of this type belongs to Phase G (see p. 386 and Pl. 71:11). Another oval-sectioned pendant (Fig. 252:32, Pl. 71:12), broken off at the perforation, terminates in four sharply pointed legs. The "lotus-pod" type (Fig. 252:33, Pl. 71:7 and 9), which first appears in Phase F (see p. 252), is represented here by four examples. The example not shown (x3276) is *ca.* 20 mm. long and 9 mm. in body diameter. One example (Pl. 71:9) is more angular than the others and its head is larger proportionately, but it definitely belongs to the same type. Another type that first appears in Phase F is horn- or crescent-shaped (see p. 252), represented here by three examples (Fig. 252:34, Pl. 70:21–22).[33] Two of them have two perforations, which would permit them to hang symmetrically with the ends either up or down. The third has only one perforation and would have to be suspended with the ends downward. One end of this pendant is notched, perhaps in an attempt at representational decoration.

One "eyed-figure" pendant (Fig. 252:35, Pl. 70:18) was found. Its transverse section is rounded rectangular. Like the great majority of pendants, it is well shaped and carefully finished. Finally, a pendant which was not available for study would seem from its photograph (Pl. 70:17) to be an attempt at zoömorphic representation.

Stamp Seals

Thirteen stamp seals are included here.[34] The shapes vary considerably. Linear designs are still common but are, on the whole, more intricate than those used in the earlier phases. Representational designs also are used.

The simplest designs consist of crosshatching (Fig. 253:1–2). No. 1, a large flat seal with somewhat egg-shaped base, was probably originally equipped with a broad slightly projecting perforated ridge; the present perforation runs from the top of the seal through the base. The larger boss in the impression is caused by the perforation; the smaller one marks an attempt at perforation, begun on the base. Although the design is still clear, the rest of the seal looks worn. The wear in conjunction with the size of the seal, its peculiar shape, and the simple design suggest that the seal is most likely extrusive from an earlier phase (Phase A?), but it may have been used in Phase G times. Although the design of No. 2 is equally simple, the size and general shape of the seal together with its handle-like projection (a feature used in Phase F also) fit in with other Phase G examples.

One design, on a pyramidal seal (Fig. 253:3), consists of two zones of equal size and with almost identical patterns.

On three seals—one of conical shape (Fig. 253:4), one with stalk handle (Fig. 253:5), one of spool shape and unperforated (Fig. 253:6)—the design consists of quadrants filled with chevrons.[35] The design of No. 5 is so carelessly executed as to be somewhat asymmetrical. A hemispheroidal seal (Fig. 253:7) bears a pleasing design with a scroll filling each quadrant. A drawing of the design is included, for it is singularly difficult to visualize the original from

[33] It seems likely that crescentic clay pendants (see p. 296) belong to the same type. They are, however, perforated at each end and would certainly have to be suspended with the ends upward.

[34] See p. 388 for a stone stamp seal which may belong to either Phase G or Phase H (Fig. 297:3). There is one bone stamp seal from Phase G (see p. 340 and Fig. 256:13).

[35] Division of the surface into quadrants is found as early as Phase E (Fig. 167:5), and a seal with chevron-filled quadrants was found in Phase F (Fig. 191:4).

FIG. 253.—PHASE G. STONE STAMP SEALS. ACTUAL SIZE

its impression. The design, to the eye, seems to consist of two opposing pairs of spirals. The impression, however, suggests an elaborate crosslike motif with wedge-shaped ends, two of which terminate in a pair of incurved scrolls.[36]

Four of the designs depict animals. A gable seal (Fig. 253:8) shows an animal with large head lowered and long tail curving up over the back. Only two legs are in evidence; the feet are very large and seem to have appendages,[37] which may represent the other two feet or, on the other hand, may depict grass or serve merely as space-fillers. Another gable seal (Fig. 253:9) bears a more linear representation. Here the animal is shown with uplifted head and short tail lowered. Three legs, with the feet all facing forward, are in evidence. Whether the space-fillers have any meaning is not known. On a seal with a short handle-like projection (Fig. 253:10) the figure is completely linear and almost unrecognizable as an animal. As on No. 9, three legs are shown, but in this case two feet point in one direction (probably forward) and the third points in the opposite direction. The head and tail are barely indicated. The nonlinear space-filler possibly represents a conical container. The only design in which animals appear with all four legs in evidence is on a gable seal (Fig. 253:11). Two animals are found in *tête-bêche* arrangement, each with lowered head and long tail.

On two of the seals the designs are unclear. The base of a hemispheroidal seal (Fig. 253:12) is very worn. The raised portion in the center of the impression may well represent the body of an animal whose head and one foreleg are visible at the left.[38] The various space-fillers also are unclear. A domed seal (Fig. 253:13) was catalogued in the field as unfinished. The impression shows quadrants formed by two intersecting straight lines, with the same linear motif in each opposing pair: an X-shaped cross at left and right and a quadruped(?) above and below.

Cylinder Seals

The cylinder, unlike the stamp seal, which is present from Phase A onward, makes its first appearance in Phase G. Of the five stone cylinder seals found in Phase G context (Fig. 254),[39] the three available for analysis are made of chlorite-rich greenstone. Three are "loop-bored" (see p. 488, n. 15),[40] and one has a suspension loop. With one possible exception the designs are nonrepresentational.

The elegant shape of No. 1 contrasts strongly with its seemingly haphazard incised linear design. The base is undecorated. Two of the loop-bored cylinders (Nos. 2–3) use the drill-centered circle as decoration. On No. 2, which shows little wear, the circles are shallowly incised, but the drill holes are 2 mm. deep. The design consists of three horizontal rows of eight circles, with a line between the top and middle rows. In addition, the top of the seal has two drill-centered circles counterbalancing the openings of the loop bore. The base is plain. Six drill-centered circles form part of the design of No. 3. The top is undecorated. Part of the base is broken away, but remnants of two drill-centered circles are still visible on the remaining

[36] Reference has already been made to this seal by Frankfort, *Cylinder Seals*, p. 231. On most of the seals (including those of the First Mixed Range and Phases E–F) with quadrant designs the dividing lines as oriented by the direction of the perforation form an X-shaped cross. Similar orientation in the case of No. 7 results in a peculiarly lopsided effect.

[37] An animal with appendages on the feet, although differently shaped, appears in Phase F (Fig. 191:7).

[38] Dr. Edith Porada suggests that the impression is upside down in Fig. 253, and it is certainly true that one can see a slightly more convincing animal when the design is turned around (head at upper right, foreleg at lower right). But perhaps the seal itself (now in Antioch) is clearer than the photograph of the impression, for it was catalogued in the field with the published orientation and described as having a "naturalistic design of animals, now unclear."

[39] See p. 296 for seal impressions on potsherds and for clay cylinders, one of which may have been intended as a seal. See Frankfort, *Cylinder Seals*, pp. 6–7 and 229, Pls. I *e* and XXXVIII *g*, *a*, for three of the Phase G seals (our Fig. 254:1, 3, 5). See p. 388 and Fig. 297:5 for a cylinder seal which may have survived from Phase G into Phase H.

[40] So called by Hogarth, *Hittite Seals*, p. 18. The perforation is bored in a U-curve on the top. Since our No. 4 has a rounded top, the ends of the perforation can be seen in the photograph.

Fig. 254.—Phase G. Stone Cylinder Seals. Actual Size

portion. This seal is very worn, and the drill holes are relatively shallow in comparison with those of No. 2. The largest seal of the group (No. 5) is perforated through the long axis and has slightly concave side and a pleasing incised rosette design composed of eyelike motifs. The rounded top of No. 4 is loop-bored, and the base is flat. The apparently unfinished design seems like "doodling." An impression is shown, however, for there is a slight possibility that the incision at the left was an attempt to render a seated figure.

"Studs"

The three "studs" (Fig. 255) are carefully shaped and finished. Two have familiar shapes. No. 1 (Pl. 71:13), with slightly convex head and more or less drop-shaped shaft, is similar to a type which occurs in Phase B (cf. Fig. 69:1). It is probably a survival from an earlier phase, since it is the only example of this type found after Phase B and the First Mixed Range. No. 2 (Pl. 71:18) is large and squat, with domed head containing five drilled depressions (for insets?). Examples of this shape are found in Phase F (see p. 253). No. 3 has an unusual shape. The head and the base are both flattened. There is an extremely small perforation through the long axis. Bits of hardened earth were found in the perforation.

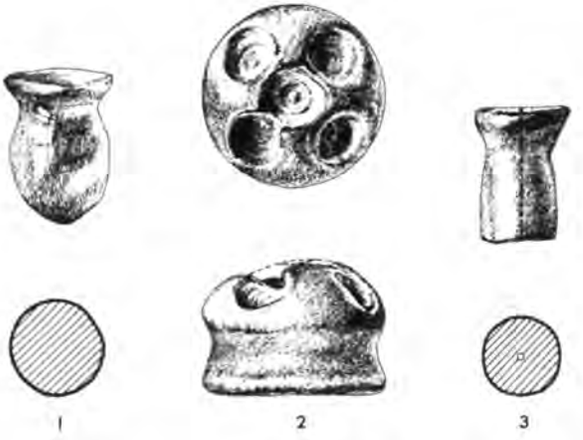

Fig. 255.—Phase G. Stone "Studs." Actual Size

Stone Identifications

VESSELS

x2811 greenstone, almost monomineralic chloric
x3167 weathered rusty chlorite-rich greenstone (Fig. 247:2, Pl. 67:1)
x3315 weathered, rusty; probably chlorite-rich greenstone (Fig. 247:3)
x3327 green calcite
x3377 weathered soft red rock; unidentified
x3387 greenstone, almost monomineralic chloritic
x3399 greenstone, almost monomineralic chloritic
x3457 greenstone, almost monomineralic chloritic (Fig. 247:1)
x5101 impure gray limestone (Fig. 247:4)
x5102 coarse-grained basalt containing pyroxene and plagioclase (Fig. 247:5)

LARGE CELTS

x2752 diabase containing hornblende, diopside, and plagioclase (Fig. 248:1)
x2845 porphyritic diabase containing plagioclase, epidote, and biotite

MEDIUM-SIZED CELTS

x3008 porphyritic hornblende-diabase with eyes of felspar, rich in ore (Fig. 248:2)
x3138 banded rhyolitic tuff
x3164 igneous rock containing alkaline plagioclase, felspar, and altered aegirinaugite
x3202 diabase containing hornblende, plagioclase, and some epidote and apatite
x3286 gray limestone (Fig. 248:4)
x3447 magnesium-rich fibrous amphibole, n = 1.608 (Fig. 248:3)

SMALL CELTS

x2340 probably serpentine-hornblende rock (macroscopic) (Fig. 249:1, Pl. 69:12)
x2810 probably nephrite (cf. Fig. 249:6)
x2819 fibrous magnesium-rich amphibole, n_α = 1.604 (Fig. 249:7)
x3045 serpentine-hornblende rock
x3140 fine-grained fibrous mineral (nephrite?) (cf. Fig. 249:2)
x3163 magnesium-rich tremolitic amphibole, n_α = 1.608
x3189 magnesium-rich fibrous amphibole, n_α = 1.612
x3190 magnesium-rich fibrous amphibole, n_α = 1.608 (cf. Fig. 249:5)
x3191 magnesium-rich amphibole (Fig. 249:5)
x3204 probably jasper
x3248 unidentified
x3288 probably jasper (Fig. 249:4, Pl. 69:15)
x3342 anthophyllite aggregate (Fig. 249:8)
x3348 serpentine-hornblende rock (Fig. 249:6)
x3398 fine-grained fibrous mineral, n_β = 1.616 (nephrite?) (Fig. 249:3)
x3448 hornblende aggregate? (Fig. 249:2, Pl. 69:11)
x3535 magnesium-rich fibrous amphibole, n_α = 1.612

WHORLS

x2359 not analyzed (Pl. 69:14)
x3131 greenstone, almost monomineralic chloritic (Fig. 249:10, Pl. 69:2)
x3343 greenstone, almost monomineralic chloritic (Pl. 69:3)
x3349 greenstone, almost monomineralic chloritic, with some talc (Fig. 249:9)
x3388 basalt (Fig. 249:11)

POLISHER?

x2713 greenstone, almost monomineralic chloritic (Fig. 249:12, Pl. 67:9)

WHETSTONES?

x3139 fine-grained hornblende-diabase (cf. Fig. 249:13)
x3182*b* impure gray limestone (Fig. 249:13)

MACEHEADS

x2314 in Antioch Museum; material (probably limestone) not analyzed (Fig. 250:1)
x2971 marble (Fig. 250:7)
x3060 marble (Fig. 250:6)
x3101 brown limestone (Fig. 250:3, Pl. 68:4)
x3110 limestone (Fig. 250:2, Pl. 68:1)
x3125 marble (Fig. 250:4, Pl. 68:2)
x3209 marble (Fig. 250:5)
x3246 yellow-red limestone (Fig. 250:10)
x3261 gray limestone (Fig. 250:9)
x3339 chalk (Fig. 250:8)
x3470 marble

UNCLASSIFIED OBJECTS

x2741 red marble (Fig. 251:5)
x3041 limestone (Fig. 251:6)
x3079 fine-grained hornblende-diabase
x3247 diorite (Fig. 251:2)
x3265 weathered, rusty; probably chlorite-rich greenstone
x3300 serphophite (serpentine mineral)
x3344 basalt
x3416 greenstone, almost monomineralic chloritic
x3446 greenstone, almost monomineralic chloritic (Fig. 251:8)
x3468 weathered rusty chlorite-rich greenstone (Fig. 251:4)
x3682 low-grade schist (Fig. 251:9)
x5099 vesicular basalt (Fig. 251:3)
x5100 amygdaloidal andesitic basalt containing plagioclase and rutile (Fig. 251:1)
x5156 hornblende-diabase (Fig. 251:7)
x5164 hornblende-diabase

BEADS

x2295 chalcedony (Pl. 70:4)
x2298 greenstone, almost monomineralic chloritic (Fig. 252:15)
x2661 kaolin, n < 1.568 (cf. Fig. 252:6)
x2776 greenstone, almost monomineralic chloritic (cf. Fig. 252:13)
x2786 soapstone containing talc and chlorite (cf. Fig. 252:17)
x2824 cliachite, n = *ca.* 1.58 (cf. Fig. 252:4)
x2837 travertine (Fig. 252:10)
x2850 carnelian (cf. Fig. 252:1)
x2881 dolomite (cf. Fig. 252:6)
x2916 serpentine (cf. Fig. 252:14)
x2917 cliachite, n = *ca.* 1.58 (cf. Fig. 252:6)
x2955 unidentified (cf. Fig. 252:12)
x2956 marble (Pl. 70:5)
x2972 quartz (cf. Fig. 252:3)
x3058 carnelian (cf. Fig. 252:5)
x3059 agate (cf. Fig. 252:6)
x3083 cliachite, n = *ca.* 1.58 (cf. Fig. 252:6)
x3086 carnelian (cf. Fig. 252:6)
x3123 chrysotile (a serpentine mineral), n_β = 1.540 (Fig. 252:3)
x3124 antigorite (a serpentine mineral) (Fig. 252:19)
x3135 pale brown in powder; extinction parallel n = 1.540, n = 1.550; birefringence rather low or moderate up to yellow of first order (chrysotile colored blue? ["Korea jade"?]); chemical test showed content of Mg and Si (chrysotile = $H_4Mg_3Si_2O_6$) (Fig. 252:2)
x3136 not analyzed (cf. Fig. 252:12)
x3170 weathered soft red rock; not identified (Fig. 252:22)
x3171 greenstone, almost monomineralic chloritic, with trace of ore mineral (Fig. 252:1)
x3172 chalcedony (Fig. 252:12)
x3173 cliachite (cf. Fig. 252:4)
x3174 limestone (cf. Fig. 252:11)
x3184*b* greenstone, almost monomineralic chloritic, with trace of apatite (Fig. 252:9)
x3186 greenstone, almost monomineralic chloritic, with some grains of ore (Fig. 252:13)
x3187 weathered soft red rock; not identified (cf. Fig. 252:8)
x3206 carnelian (Fig. 252:7)
x3207 cliachite, n = *ca.* 1.58
x3251 fine-grained, impure; not identified (Fig. 252:16)

x3257 soapstone (cf. Fig. 252:11)
x3266 carnelian (cf. Fig. 252:6)
x3273 carnelian (cf. Fig. 252:6)
x3291 soapstone (cf. Fig. 252:11)
x3292 amorphous mineral, n = *ca.* 1.554 (probably halloysite [clay mineral]) (cf. Fig. 252:12)
x3293 probably a clay mineral (kaolin or illite?) (cf. Fig. 252:6)
x3295 soapstone (Fig. 252:6)
x3301 greenstone, almost monomineralic chloritic, with some grains of ore (Fig. 252:14)
x3302 carnelian (cf. Fig. 252:5)
x3334 weathered soft red rock; not identified (cf. Fig. 252:14)
x3337 carnelian (cf. Fig. 252:7)
x3350 greenstone, almost monomineralic chloritic (Fig. 252:21)
x3376 chalcedony (Fig. 252:18)
x3386 greenstone, almost monomineralic chloritic (cf. Fig. 252:21)
x3392 greenstone, almost monomineralic chloritic (cf. Fig. 252:3)
x3393 soapstone (Fig. 252:8)
x3413 quartz (cf. Fig. 252:1)
x3414 chlorite (Pl. 70:10)
x3461 limestone (Fig. 252:11)
x3463 chalcedony (cf. Fig. 252:5)
x3511 not analyzed (Pl. 70:7)
x3512 opal, amorphous, n = *ca.* 1.45 (Fig. 252:17)
x3532 diopside (Fig. 252:20)
x3533 slate (cf. Fig. 252:3)
x3556 carnelian (Fig. 252:5)
x3636 not identified (cf. Fig. 252:6)
x3751 cliachite, n = *ca.* 1.58 (Fig. 252:4)

PENDANTS

x2812 serpentine-chlorite rock
x2847 greenstone, almost monomineralic chloritic (Fig. 252:35, Pl. 70:18)
x2924 in Antioch Museum; material not analyzed (Pl. 71:4)
x2925 in Antioch Museum; material not analyzed (Pl. 71:7)
x3055 not analyzed (cf. Fig. 252:31)
x3109 marble (Fig. 252:27, Pl. 70:19)
x3137 serpentine (Fig. 252:24)
x3176 in Antioch Museum; material not analyzed (Pl. 71:5)
x3205 obsidian (Fig. 252:29)
x3221 greenstone, almost monomineralic chloritic (Fig. 252:33)
x3256 serpentine (Fig. 252:26)
x3276 greenstone, almost monomineralic chloritic, with traces of ore mineral and fluorite (cf. Pl. 71:7)
x3289 serpentine (cf. Fig. 252:24)
x3309 greenstone, monomineralic chloritic (Fig. 252:32, Pl. 71:12)
x3351 in Antioch Museum; material not analyzed (Pl. 71:9)
x3407 marble (Fig. 252:23)
x3408 greenstone, monomineralic chloritic (Fig. 252:31, Pl. 71:10)
x3409 in Antioch Museum; material not analyzed (Pl. 70:17)
x3441 in Antioch Museum; material not analyzed (cf. Fig. 252:31)
x3482 greenstone, monomineralic chloritic (Fig. 252:34)
x3483 weathered soft red rock; not identified (Fig. 252:28)
x3510 in Antioch Museum; material not analyzed (Pl. 70:21)
x3514 not analyzed (Pl. 70:22)

x3557 not analyzed (Fig. 252:25)
x3622 not analyzed (Fig. 252:30, Pl. 71:2)

STAMP SEALS

x2973 greenstone, almost monomineralic chloritic (Fig. 253:9)
x3056 in Antioch Museum; material not analyzed (Fig. 253:2)
x3175 in Antioch Museum; material not analyzed (Fig. 253:3)
x3193 weathered soft red rock; not identified (Fig. 253:5)
x3241 in Antioch Museum; material not analyzed (Fig. 253:11)
x3290 weathered soft red rock; not identified (Fig. 253:7)
x3317 in Antioch Museum; material not analyzed (Fig. 253:12)
x3328 in Antioch Museum; material not analyzed (Fig. 253:6)
x3338 greenstone, almost monomineralic chloritic (Fig. 253:4)
x3406 greenstone, almost monomineralic chloritic (Fig. 253:1)
x3421 in Antioch Museum; material not analyzed (Fig. 253:13)
x3509 greenstone, almost monomineralic chloritic (Fig. 253:10)
x3527 in Antioch Museum; material not analyzed (Fig. 253:8)

CYLINDER SEALS

x2792 in Antioch Museum; material not analyzed (Fig. 254:1)
x3116 in Antioch Museum; material not analyzed (Fig. 254:5)
x3274 greenstone, almost monomineralic chloritic (Fig. 254:2)
x3318 greenstone, almost monomineralic chloritic (Fig. 254:3)
x3391 greenstone, almost monomineralic chloritic (Fig. 254:4)

"STUDS"

x3184*a* calcite (Fig. 255:1, Pl. 71:13)
x3188 hematite (Fig. 255:3)
x3375 greenstone, almost monomineralic chloritic (Fig. 255:2, Pl. 71:18)

WORKED BONE OBJECTS

Sixty-eight objects of bone and three of horn were found in Phase G context.[41] In addition, there are two objects of horn which are from either Phase G or Phase F (see p. 340). The objects with sufficient articular surface remaining to permit identification come from gazelle, sheep, sheep or goat, Bos, equid, lion, and deer.[42] Awls are still fairly abundant, but a good share tend to be so slim and pointed that they are barely distinguishable from pins, the most common class of bone object in Phase G. A fair number of the pins have decorated heads. Awls and pins alike are usually made on metapodials. But now, in contrast to the earlier phases, the majority of the identifiable awls are made on the proximal end of the bone.[43] Horn objects are rare and seem to have been used mainly for hafts; no worked horn was found in earlier phases save possibly the two objects which may be from Phase F.

Eight awls are similar to those of the preceding phases in which the natural articular surface serves as butt (see Fig. 193:1), but they tend to be somewhat shorter (average l. 67 mm.). Two of these are clumsily made from the whole bone (Pl. 72:6).

[41] Not including a few bone objects which were not catalogued but are registered as follows: disk with incised decoration (x3002), awl (x2815), and worked animal bone (x2929). Another bone object is from a findspot that may refer to either Phase G or Phase H (see pp. 390 f. and Pl. 73:12).

[42] Mrs. Foss identified the following: gazelle (x3106, x3254), sheep (x3440), sheep or goat (x3042, x3092, x3255, x3345, x3347, x3384), Bos (x3307), roe(?) deer (x3563), lion (x3747), equid (x3319, x3383).

[43] This fact may well indicate an actual preference in view of the strong tendency in Phase G to square or round off the butt end but still to retain some of the articular surface—a much simpler chore when the proximal end rather than the distal end is used.

Five awls (average l. 61 mm.) have the articular surface partially trimmed away. In one (Fig. 256:1) only a small portion of the articular surface is trimmed. In the remainder the butt is either smoothly rounded or squared (Fig. 256:2, Pl. 72:7) off. These awls are sharply pointed, but the points are sturdy in the main. In addition there is a fragment of an awl (x3252) that probably belonged to this type.

An object made on the metapodial of a large animal (Pl. 73:1) is much more stocky than the usual awl but should probably be classified as an awl. The point is sharp. The butt end is missing.

Splinter awls are fairly common, numbering thirteen in total (e.g. Fig. 256:3, Pl. 72:15). They average 72 mm. in length. Nearly all have slender sharp points, and two are pointed at both ends. In all cases the working was confined to the vicinity of the point, the rest of the edges being left rough.

The most common class of bone object in Phase G is the pin, of which there are thirty-four examples. In pins at least half of the shaft is oval to round in section, whereas in awls only a small fraction ($\frac{1}{4}$ or less) at the tip end is round in section. Moreover, pin shafts are more slender than awl shafts.

In the simplest type of pin (Fig. 256:4) the articular surface is kept as head. There are seven such examples. The average length is 101 mm., the longest (Pl. 74:8) being 165 mm. Two shaft fragments (x2765, x3460) belong to either this or the following type.

Four pins (average l. 87 mm.) are of a type in which the articular surface is partially trimmed away (Fig. 256:5, Pl. 74:1). The head is roughly squared in two and rounded off in the other two. In addition, two shaft fragments (x3085, x3217) probably belong to this type.

There are thirteen pins with well shaped heads that are devoid of any articular surface. It is impossible to give the average length, for many are fragmentary. The largest example is 132 mm. long (Pl. 74:6), the shortest 61 mm. (Fig. 256:11, Pl. 74:15). A few still show a slight groove, which indicates the original contour of the bone. The rest are perfectly formed, with the shaft round in section except at the very head in some examples. Only one (Fig. 256:6) has a squared head, which is rectangular in transverse section. Three examples have a more or less conical or dome-shaped head, separated from the shaft by a slight groove (Fig. 256:7, Pl. 74:6). Six heads are segmented, with two or more incised V-shaped grooves defining the segments. Two of these heads are domed-shaped at the end (Fig. 256:8, Pl. 74:5), one is rounded (Fig. 256:9, Pl. 74:14), and two are squared (Pl. 74:13). The sixth (x3385) is broken off at the second groove, and the head itself is missing. Two pins have triangular heads, which are rectangular in transverse section (Fig. 256:10, Pl. 74:12). In each case a plain tapered pin was first produced; then the shaft was thinned near one end to permit the triangular shaping of the head. This abrupt thinning produces an awkward bulge in the shaft immediately below the thinned part. A headless fragment (x2775) which has the bulge and the abrupt thinning probably belongs to this type.[44] One pin (Fig. 256:11, Pl. 74:15) has a more sturdy shaft than most of the others. The head is splayed and flattened and decorated with small notches along the edges. In addition, three shaft fragments (x2738*b*, x2878, x3183*a*) very likely represent pins with decorated heads.

There are two perforated pin fragments, one (Fig. 256:12, Pl. 74:10) with squared head and one (Pl. 74:17) with rounded head. The perforations are double-bored. The heads are flat and splayed and seem too broad for needles in the modern sense.

A small bird(?) bone (Pl. 76:14) is trimmed a bit at one end and perforated. The entire shaft is polished. It was probably used as a pendant.

Only one blade fragment (Pl. 75:8) appeared in Phase G. Both edges are blunt. The under surface shows cancellous tissue. The upper end is missing. The other end (originally pointed?)

[44] One pin of this type was found in Phase F context (Fig. 193:5).

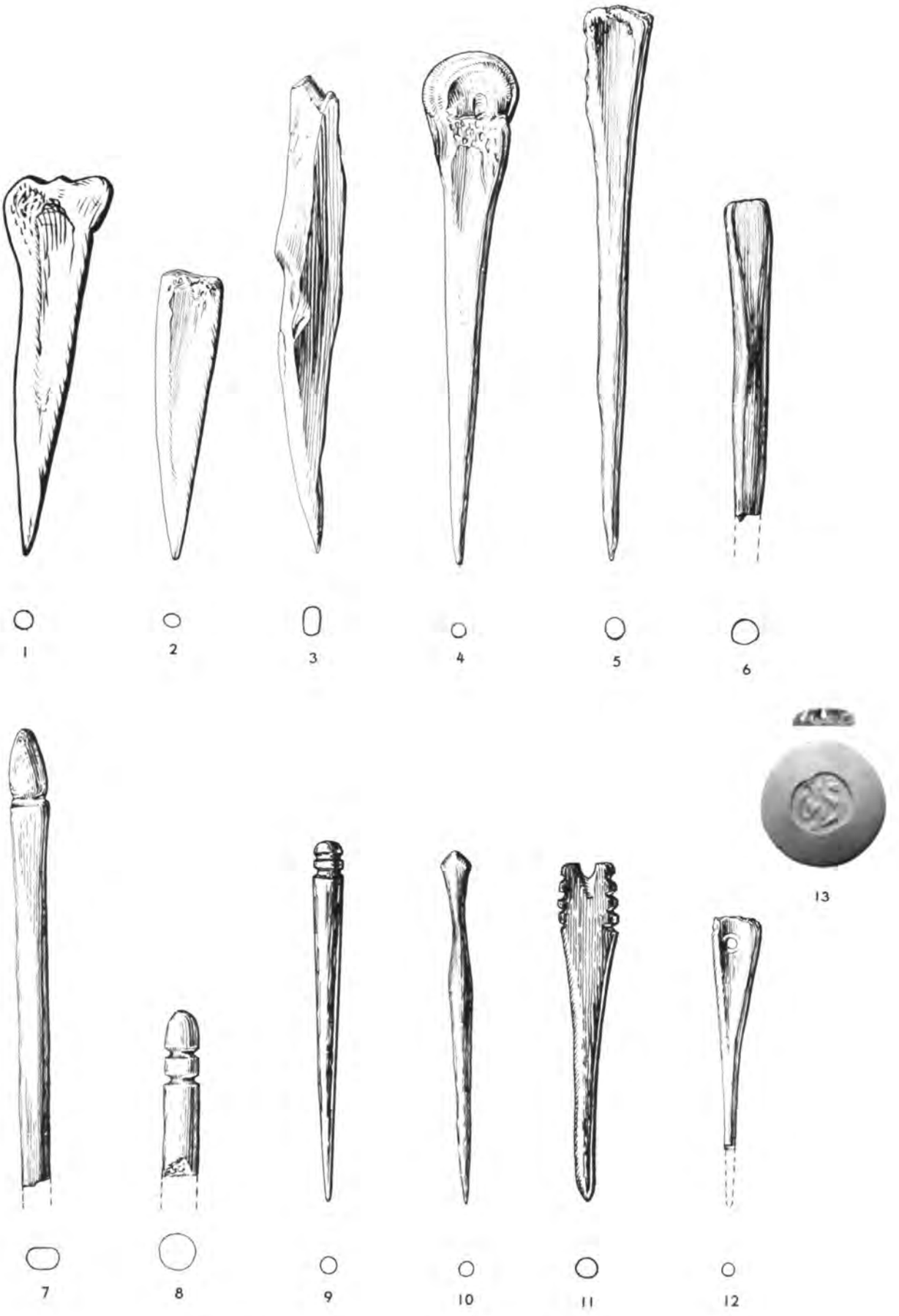

Fig. 256.—Phase G. Worked Bone Objects. Actual Size

was broken in antiquity but shows a bit of polish from use on the splintered under surface. The entire upper surface and the raised portions of the cancellous tissue on the under surface are highly polished.

A large tube (Pl. 76:1) made from the middle section of a lion femur was probably used as a container (present l. 155, center 32 × 25, top opening 22 × 15, bottom opening 30 × 21 mm.). The upper end, which was broken off in antiquity, may have been perforated for suspension (cf. Fig. 300). The tube is decorated with incising in three registers. The lower and upper registers are identical. Three groups of five parallel lines form zigzags. The first and third groups are in phase, the second group being out of phase. The arrangement of the zigzags leaves triangles in relief at the top and bottom of the register and diamonds in the center. The middle register consists entirely of crosshatching. The broken upper end of the tube must have had some additional incising, perhaps crosshatching, for bits of two lines can be seen crossing each other.

There is one stamp seal (Fig. 256:13). It is hemispherical and bears an unclear curvilinear design.

An object (Pl. 76:2) made on the lower portion of an ulna with plano-convex section still has the articular surface at one end. The lower and probably functional end is missing. The remaining surface is polished but not shaped in any way. The object is decorated with a series of short parallel incised lines. One edge is slightly notched in several places.

A knucklebone (Pl. 76:6) has two grooves made simultaneously by a tool (flint blade?) used in a sawing motion.

Of the five horn objects, four are horn cores and one is an antler. Two of these (Pl. 77:1 and 3) are registered as found in either JK 3:21 or JK 3:20 (Phase F or Phase G), but they probably belong to Phase G.

A horn core which was no doubt used as a haft (Fig. 257, Pl. 77:5) is hollowed out at the larger end. The hole tapers sharply and measures 18 × 7 mm. at the opening. It is large

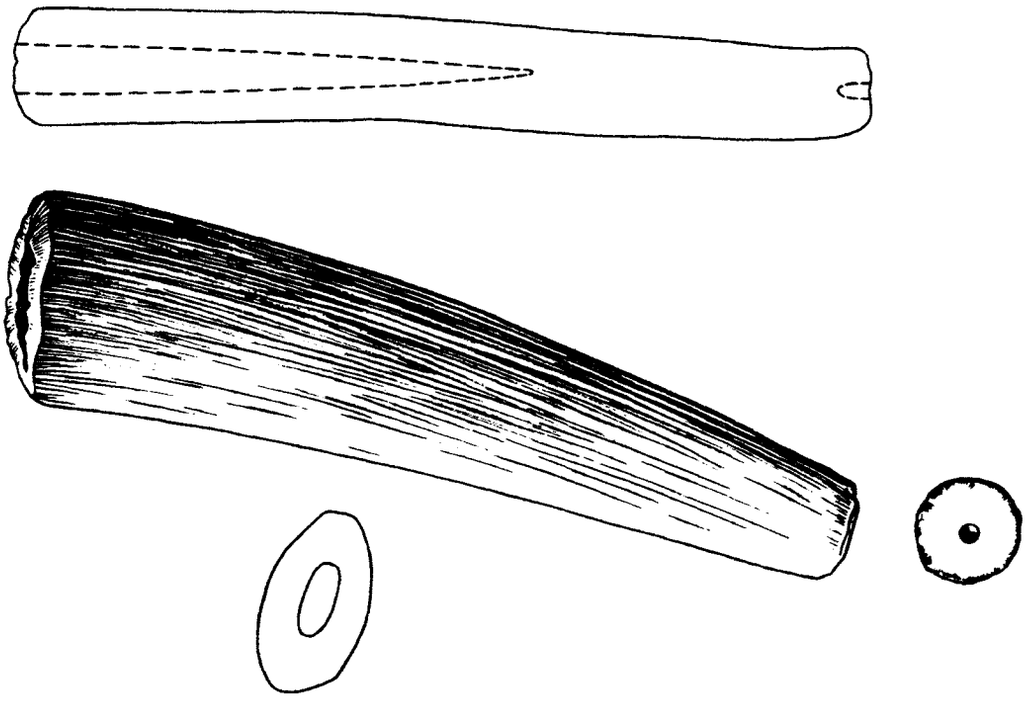

FIG. 257.—PHASE G. BONE TOOL (x3061), PROBABLY A HAFT. ACTUAL SIZE

enough to hold a small slender stone or metal tool. The edge at this end is roughly beveled. The tip is sawed off at the other end, in which there is a tiny hole, perhaps accidental. The surface shows some polish but had little smoothing, for it is quite bumpy. Another horn core (l. 63 mm.) which was probably used as a haft (Pl. 77:7) is ground smooth over the entire surface. The upper end is smoothly sawed off; the opening measures 15 × 12 mm., and the hole seems to be 15 mm. deep; it could hold a very small tool.

The antler is probably a handle (Pl. 77:1). The surface is unfinished except for a slight amount of grinding on a small strip at the upper end (spot containing field number). The upper edge is rough. The opening is 17 × 14 mm., and the hole is 22 mm. deep.

The other two horn cores may be unfinished tools which were used as awls for a short time. The upper end of one (l. 105 mm.) is neatly sawed off (Pl. 77:2). Some hacking occurs near the upper end. The rest of the surface is not smoothed. The tip is slightly polished from use. The second object (Pl. 77:3) has portions broken off at each end. The upper end has a small perforation (d. *ca.* 1.5 mm.). A small part of the surface (spot containing field number) is ground smooth. The lower end is also smoothly finished and shows traces of polish from use.

OBJECTS OF OTHER MATERIALS

Glass and fayence make their first appearance in this phase, both used for beads. Quite a number of shells were found; a few show a little work and are described below. Some charred material is probably bread.

A short oblate spherical bead (Fig. 258:1, Pl. 78:1) is the only glass found in the phases dealt with in this volume. We are extremely grateful to Professor Matson for examining this bead and for his discussion, which follows.

This bead is of particular interest because it provides evidence from a well stratified deposit of very early glass manufacture. It is pale yellow-green in color, which can best be seen when the glass is wet. The green is caused by the presence of a small amount of iron in the glass. The glass is unusually well preserved and has only a thin iridescent surface coating formed of decomposition products caused by weathering. Many old pieces of glass of less durable composition have a thick patina and contain little of the original glass. Much ancient glass has disappeared completely because it was unable to resist attack by water and the atmosphere over a long period of time.

There are many bubbles on the surface of the bead and fewer in its interior. The largest bubble seen was 0.9 mm. in diameter. Cords are prominent in the glass. The bead was formed around a straight rod (d. 3.6 mm.) which gave the core a uniformly cylindrical shape, but the outer surface, which was probably shaped by rolling the soft glass on a flat surface after it had been gathered on the rod, is misshapen and pock-marked. The presence of so many seeds and cords in the glass indicates that it was melted at a fairly low temperature at which the viscosity was still quite high, so that the glass had the stiffness of thick molasses. It could not be stirred or worked easily in such a state, so that it was not cleared of seeds and cords. Had it been possible to use a higher melting temperature, a better quality of glass could have been made.

The physical properties of the bead are as follows:

Index of refraction	1.508
Specific gravity	2.56
Weight	0.487 gm.
Diameter	8.8–9 mm.
Length	6.2 mm.

Very little comparative material of a technical nature for such early glass has been published. A glass cylinder found at Tell Asmar and dating probably from the Akkadian period was examined by H. C. Beck, who reported that it had an index of refraction of *ca.* 1.515 and a specific gravity of 2.463.[45] The

[45] Frankfort, *Iraq Excavations of the Oriental Institute, 1932/33: Third Preliminary Report of the Iraq Expedition* ("Oriental Institute Communications," No. 17 [Chicago, 1934]) pp. 56–58.

cylinder was very clear, practically free of seeds and striae, and contained minute spherical particles of blue coloring matter. This glass apparently is of a somewhat different type than the Judaidah specimen, not only because of its color and clarity but especially because of its specific gravity. Since there are many bubbles in the Judaidah glass, the true volume of the specimen would be less than that of the whole bead and therefore the true specific gravity would, if anything, be greater than 2.56.

A Middle Bronze II glass bead from Megiddo was studied by W. R. Morgan, who reported that it was badly weathered and in fact that the major portion "was relatively soft and had a pearly luster." There was a small blue core that was "relatively hard and glasslike" and had an index of refraction between 1.500 and 1.512.[46] Although the refractive index is not much less than that of the Judaidah bead, the great degree of weathering and the blue color indicate that the composition of the Megiddo bead was appreciably different from that of the Judaidah bead.

F. A. Bannister published a chart for determining the approximate glass composition of an imitation gem-stone,[47] in which areas for different general types of glass composition were delimited in terms of index of refraction and specific gravity. This chart was used by Robert Mond and O. H. Myers for plotting a series of Egyptian beads from the Old and Middle Kingdoms which they had excavated at Armant.[48] If the properties of the Judaidah, Asmar, and Megiddo glass specimens were plotted on the same chart, they would fall in the same range as the beads from Armant. This area represents soda-lime-silica glass, which, though it is the oldest type of glass composition known, is still in use today, with minor modifications, for the manufacture of bottles and window glass. This type of glass has survived through the millennia because of its excellent resistance to weathering. If other glass compositions were used in antiquity, they did not resist weathering and have left no trace. Through trial and error the early glass-makers developed a simple formula that is still the basis for much of the common glass in use today. This fact is not so remarkable as one might think, for it is only within rather narrow limits of

FIG. 258.—PHASE G. GLASS (*1*) AND FAYENCE (*2*) BEADS. ACTUAL SIZE

composition variation, when silica (sand), calcium (from limestone or gypsum), and soda (from ashes of plants) are mixed together, that clear glass can be formed which will melt at fairly low temperatures and yet not decay rapidly when exposed to moisture and weathering.

It would be possible to guess at the composition of the Judaidah bead, for all glass compositions so far published for the Near East are pretty much the same basically, although they may differ in their coloring ingredients. However, such a guess would serve no useful purpose. Bernhard Neumann has published the most comprehensive survey so far of the work done on the study of ancient glass compositions in terms of chemical analyses. It is remarkable to note the high degree of similarity among the many analyses that he lists.[49]

A button-like bead of fayence, with deep blue-green glaze, is somewhat crudely shaped (Fig. 258:2, Pl. 78:3). Its surface is slightly bumpy in spots. This too was examined by Matson for composition (see p. 394).

A fragment of a clamlike shell (Pl. 78:16) has a large hole drilled through a flattish portion. Perhaps the intention was to make a disklike bead such as that shown in Figure 301:3 (Phase H). A fragment of a smaller unidentified marine shell (Pl. 78:17) has a slight depression drilled in the flat lower surface—probably an attempt at perforation. Some of the edges seem to be rounded off by grinding. Other marine shells were probably used as beads. The top portion

[46] P. L. O. Guy and R. M. Engberg, *Megiddo Tombs* (*OIP* XXXIII [1938]) pp. 179–80.

[47] *The Mineralogical Magazine and Journal of the Mineralogical Society* XXII (1929–31) 147.

[48] Mond and Myers, *Cemeteries of Armant I* (London, 1937) 72–73.

[49] See "Antike Glaser," *Zeitschrift für angewandte Chemie* XXXVIII (1925) 776–82 and 857–64, XL (1927) 963–67, XLI (1928) 203–4, XLII (1929) 835–38.

of a small conelike shell, *Conus* (*Lautoconus*) *mediterraneus* BRUGUIÈRE (Pl. 78:14), is smoothly ground and polished where it was severed from the rest of the shell. The perforation must be at least partly natural but seems to have been slightly enlarged, and its edges are smoothed. Two shells of the same type (x2846, x3039) were perforated, or at least had some smoothing and enlarging of natural holes, as also two unidentified fragments (Pl. 78:18–19) and specimens of the Mediterranean forms *Columbella* (*Columbella*) *rustica* LAMARCK (x2731*a*) and *Polinices* (*Neverita*) *josephinae* RISSO (x3263).

An item (x3099) from cache JK 3:17/1 (see p. 344) carries the following preliminary note by Jones and Vestal:

> A quantity of charred porous material suggests some sort of burned food. There seems little doubt that at least most of this is charred bread. It compares very closely in appearance and structure with bread from Swiss Lake Dwelling sites in the Buschan Collection in the Botanical Museum of Harvard University. It also compares well with modern bread charred for comparison. The porosity of the specimen suggests that the bread was leavened, indicating the use of yeast.

BURIALS

Two of the burials which appeared in the Phase G range of Judaidah JK 3 were intrusive from much later periods; x S 12 was found at the level of floors 16–14 in the stone-lined well (see p. 262 and Fig. 199) and x S 13 at the level of floor 17 in the corridor trench in the northwest corner of the cut (see Fig. 198).

The open burial of an adult male (x S 14) appeared in the corridor trench at the level of floor 18 (see Figs. 197 and 201, section). At this depth the trench was running through stratified debris, not talus, and the burial could be assigned with certainty to floor 18. The individual was on his back with legs extended and crossed, left over right, just above the ankles (Pl. 79 *B*). The sacrum-to-atlas direction was 5° west of south, the face looking somewhat down and to the right. Both elbows were against the body. The right arm was abruptly flexed, with the hand resting on the right shoulder; the left forearm and hand rested on the abdomen. There were no *Beigaben*. The skull, which was sent to Chicago, conforms to Krogman's Eurafrican type.[50]

The skull of an adult male (x S 15) was found on floor 3 of Judaidah TT 20 XIV (see Fig. 5). It rested on its side, looking more or less east. It was sent to Chicago; it conforms to Krogman's Mediterranean type.[51]

The fragmentary skeleton (x S 22) of an infant in a cooking pot (Fig. 228:3), over which a base sherd (Fig. 228:4) had been used as a lid (see p. 288, n. 11), was found on floor 19 in JK 3.[52] There were no *Beigaben*, and no physical details are available.

CACHES

There was one apparently purposeful cache, the group of metal figurines from the debris just above floor 3 of Judaidah TT 20 XIV (see pp. 300–313), which was taken from the ground in a clump (see Pl. 56 *a*).

Two situations treated as caches had nothing remarkable about them; each was simply a group of artifacts found in close proximity but with no apparently meaningful arrangement.

[50] See Türk Tarih Kurumu, *Belleten* XIII 452–54 and Table VI.

[51] See *ibid.* pp. 434–52 and Table VI.

[52] Unfortunately, when the pot and lid were removed in one clump to be cleaned, the findspot was not marked. Hence the position of x S 22 is not indicated on the plan of JK 3:19 (Fig. 196). At first we were not even sure that the bones were human, and we did not assign the burial number until the end of the season.

One group (JK 3:17/1) consisted of the following items:

x3094 flint blade
x3095 flint point
x3096 bone blade (Pl. 75:8)
x3097 bone awl (cf. Fig. 256:3)
x3098 metal reamer (Fig. 239:5)
x3099 charred bread? (p. 343)
x3100 fragment for analysis (p. 314)
x3101 macehead (Fig. 250:3)
x3110 macehead (Fig. 250:2)
x3112 flint blade
x3113 basalt disk (discarded in field)
x3359 pot (Fig. 207:1)
x3360 pot (Pl. 26:3)
x3361 pot (Fig. 207:2)
x3362 pot (Fig. 203:8)

The other group (JK 3:14/1) consisted of eight pots (x2900:1–8), found on floor 14 of Judaidah JK 3. Three of these are illustrated (Figs. 203:11, 223:2, and 228:1, Pl. 26:1).

NONARTIFACTUAL MATERIALS

Flora

A few kernels of some cereal (from JK 3:19) in a poor state of preservation. Some seem to be barley (*Hordeum vulgare*), and others suggest bread wheat (*Triticum aestivum*).

Gray ash (x3053), found on microscopic analysis to be from the chaff of some cereal, probably wheat.

Mollusca

Helix (*Helix*) *pachya* BOURGUIGNAT, a terrestrial form (1 specimen, from Judaidah JK 3:19).

Psilunio littoralis homsensis LEA, a fluviatile form (3 specimens, from JK 3:19–20).

Psilunio littoralis semirugatus LAMARCK, a fluviatile form (x2832–33 and 5 specimens from JK 3:13, 16, 19–20).

Unio crassus bruguierianus BOURGUIGNAT, a fluviatile form (1 specimen, from JK 3:17).

Beguina (*Mytilicardita*) *calyculata* LINNÉ, a marine, Mediterranean, form (x2751).

Conus sp., a marine form, fossil (x3142).

Dentalium (*Antalis*) *panormum* CHENU, a marine, Mediterranean, form (x2662).

Murex (*Truncularia*) *trunculus* LINNÉ, a marine, Mediterranean, form—the Tyrian dye shell (x2874, x3009, x3166).

Vertebrata

Wild: turtle, *Clemmys caspica;* weasel, *Mustela* sp.; medium-sized cat, probably leopard (*Panthera pardus*); deer.

Domestic: dog; ass, *Asinus asinus;* pig; sheep (or goat); ox, probably brachycerous type.

Homo sapiens: x S 14, Krogman's Eurafrican type skull; x S 15, Krogman's Mediterranean type skull; x S 22, too fragmentary for study (see p. 343).

X

PHASE H

INTRODUCTION

PHASE H was first encountered in the narrow base cut in W 16 (floor 5) at the foot of Chatal Hüyük (see pp. 4–5), in an exposure of only 17.5 sq. m., with a depth of 0.5 m. The characteristic Red-Black Burnished Ware, which continues into Phase I, was noted in the superimposed 1.0 m. of stratified deposit, but the separation into phases was not at first made.

Phase H was subsequently encountered on Judaidah (in JK 3:12–7 and TT 20 XIV 4) in exposures totaling *ca.* 116.2 sq. m., the greatest depth of deposit being 1.2 m., and on Ta'yinat (T 4:9–6) in a 35.8 sq. m. exposure with a depth of 3.0 m.

Red-Black Burnished Ware was also present in the sortings of inconsistent materials from TT 1 and TT 2 at Dhahab (see pp. 14 f.).

At Chatal Hüyük, Judaidah, and Ta'yinat the stratigraphy was regular. There was domestic architecture in parts of the exposures; the materials obtained were consistent, within themselves and also exposure for exposure and site for site.

Defined as beginning with the substantial appearance of Red-Black Burnished Ware in an otherwise standard Phase G assemblage, Phase H ends with the appearance of a new Simple Ware of unmistakable fabric and a Painted Simple Ware of the same fabric. These characterize the beginning of Phase I, but the Red-Black Burnished Ware continues throughout Phase I. The flint tradition of Phases F–G continues in Phase H. However, generally, it would almost seem that the areas which our exposures tapped were relatively poorer in small objects than those of Phase G.

ARCHITECTURE

The Phase H floors in Judaidah JK 3 included remains of two major aspects of an apparently elaborate domestic structure, elaborate especially from the point of view of its accessory features. There was also a portion of a presumably domestic building, with substantial *libn* walls, in Ta'yinat T 4:8. The other exposure on Judaidah (in TT 20) and that on Chatal Hüyük intercepted *libn* walls, but the operations were not of a nature to yield recordable plans. *Libn* walls and an oven or prepared hearth (cf. Fig. 262) which appeared at Dhahab may safely be assigned to Phase H on typological grounds.

All the *libn* walls encountered in Phase H were competently constructed (see Pls. 9 *C–D*, 10 *D*). Those of the building in JK 3 were only one brick's width in thickness but were stone-founded and faced with marlaceous plaster. They, as well as the walls in Ta'yinat T 4:8, indicated marked improvements in the mason's art, for they were straight, of uniform thickness, and right angled at the corners. It must be recalled, however, that our exposures in earlier phases may not have yielded the best brickwork which may have been present originally. The Phase H architecture was even more marked by a number of relatively elaborate accessories. Clay benches, simple silo pits, and possibly even a kind of bin were attempted in Phase G (see pp. 259–62), but such features were competently executed in Phase H.

There were simple floor basins of fire-hardened marl, consisting of a prepared mixture of clay and limestone bits, on Chatal Hüyük[1] and in Judaidah JK 3:9 (Fig. 266, feature 1). These seem to have been made by lining a simple hole in the floor with the marlaceous material and then burnishing and fire-hardening the surface (Fig. 259). Simple unlined floor holes or basins (closely resembling feature 1 in section) appeared in JK 3:9 (Fig. 266, feature 2) and in Taʿyinat T 4:7 (see Fig. 268, section). Reconstructible portions of two more complicated basins were found in JK 3:11 (Fig. 263, feature 7) and in JK 3:10 or 9 (Fig. 266, feature 4). Each was shallow and had a broad rim encircled by a slightly depressed floor which was itself provided with a rim. The example in level 10 or 9 (Fig. 260) was entirely of burnished and fire-hardened marl; it was nicked when a shallow pit was sunk from about floor 6. In the level 11 example (Fig. 261) only the basin itself and a portion slightly beyond the rim were fire-hardened, while the rest was of packed earth; a *libn* bench (Fig. 263, feature 6) was later built over its northern portion.

Even more elaborate burnished and fire-hardened accessories appeared in Judaidah JK 3:11 and at Dhahab. They were apparently ovens or prepared hearths. That in JK 3:11 (Fig. 263, feature 11) was a horseshoe-shaped structure with a broad apron in front of it (Fig. 262). Presumably it originally had an arched roof and some sort of flue.

Unfortunately not all of the building in Judaidah JK 3 was exposed. The excavated portion actually proceeded downward from floor 6 or 7 through floor 11. The two major manifestations were seen most clearly at floors 11 and 9; floors 8 and 7 represented minor adaptations of floor 9, and floor 10 apparently a minor adaptation of floor 11.

In level 11 (Fig. 263) two rooms on a north-south axis were assured, but we do not know whether the plan was developed farther to the east or south. To the west of the two main rooms were traces of small rooms or sheds, the more westerly of which was provided with a doorway and the horseshoe-shaped oven mentioned above (feature 11), but the area seemed otherwise open. The south room had a doorway opening on this free area to the west; it may have had other doorways to the east or south in its unexposed walls. The north room had a single doorway, leading from the south room. Its north and west walls and a short portion of its south wall were flanked by a plastered *libn* bench, which was built separately against the plastered bases of the walls (see Pl. 9 *C–D*, where the *libn* of the west wall has been removed). A short plastered *libn* bench on the east wall (feature 9) had a peculiar little curved mud wall just south of it, which formed a kind of niche or pen (Fig. 264). In the northeast corner of the room was what appeared to have been an arched oven, with an apron in front of it and another prepared floor to the left (feature 8). The floor on the left was simply of well packed earth (not marl) and was made over a smaller separate floor (see Fig. 265, section B–B). The marl apron also had been refinished at least once, when it was provided with a little double rim (see Fig. 265, section A–A). The structure which roofed the "oven" was not preserved on the east, flanking the wall of the room. The roof may simply have arched over to lean, buttress-like, against the wall, or it may have been a structure like feature 11 (Fig. 262) whose eastern portion was no longer preserved. The floor of the oven was completely prepared and fire-hardened before the roofing structure was built; a troughlike depression at the eastern edge (see Fig. 265, section B–B) was intact and must have been made intentionally. There was a bin or some sort of receptacle in the southeast corner of the room (feature 10). The other accessory features which are shown on the plan are described above. Part of the floor was covered with thin white plaster.

It was not exactly clear whether the line called floor 10 pertained to the walls of level 11 or to the rebuilding which was clearly manifested at floor 9. In level 9 (Pl. 10 *D*) the plan was

[1] Within the tunnel part of the W 16 cut (see p. 4). A basin which appeared in section on the face of the cut at floor 3 (see Pl. 2 *B* and p. 397, n. 1) is of the same type.

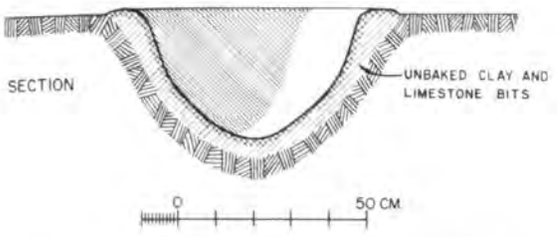

FIG. 259.—PHASE H. SIMPLE LINED FLOOR BASIN IN JUDAIDAH JK 3:9 (FEATURE *1* IN FIG. 266).

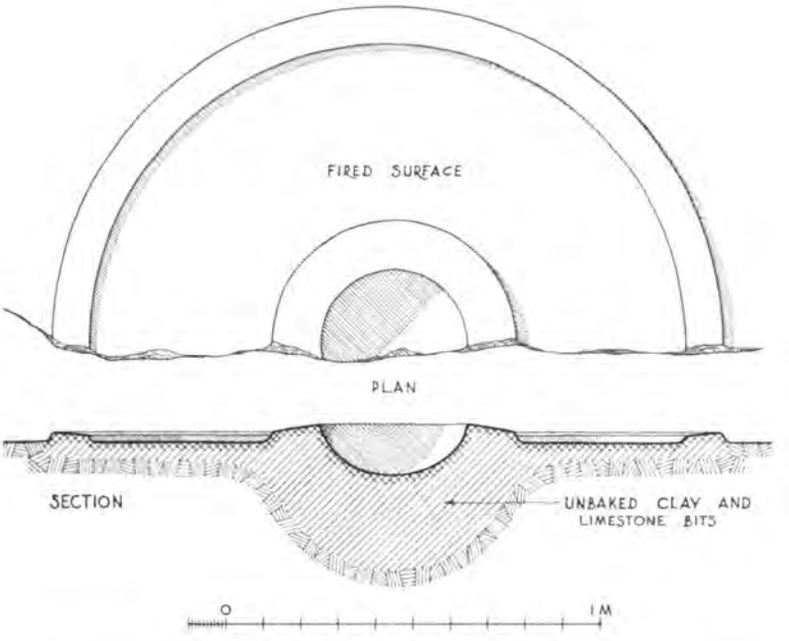

FIG. 260.—PHASE H. ELABORATE FLOOR BASIN IN JUDAIDAH JK 3:10 OR 9 (FEATURE *4* IN FIG. 266).

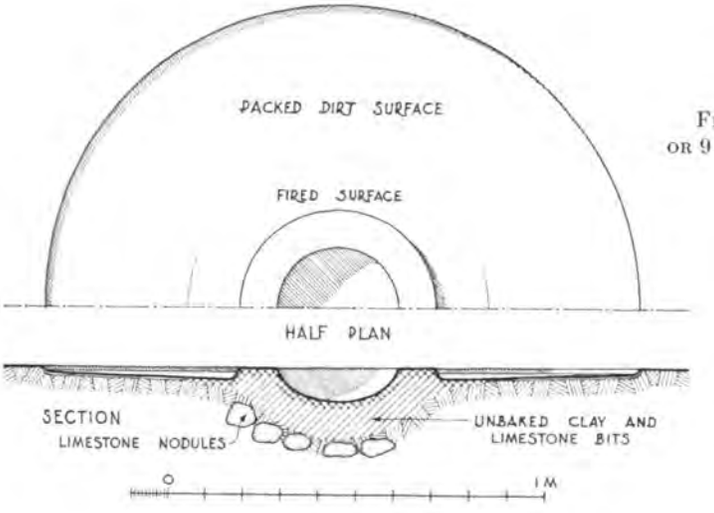

FIG. 261.—PHASE H. ELABORATE FLOOR BASIN IN JUDAIDAH JK 3:11 (FEATURE *7* IN FIG. 263).

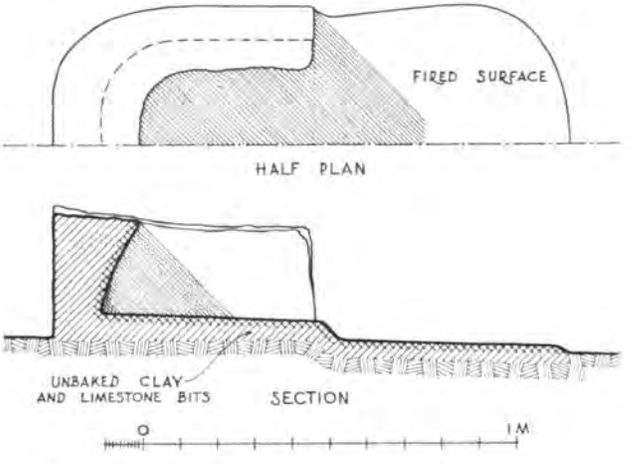

FIG. 262.—PHASE H. HORSESHOE-SHAPED "OVEN" IN JUDAIDAH JK 3:11 (FEATURE *11* IN FIG. 263).

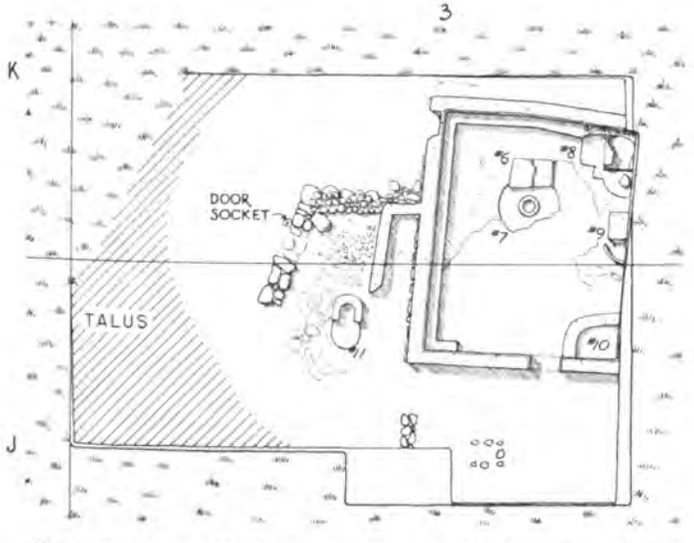

FIG. 263.—PHASE H. PLAN OF JUDAIDAH JK 3:11 (AND 10?). SCALE, 1:200.

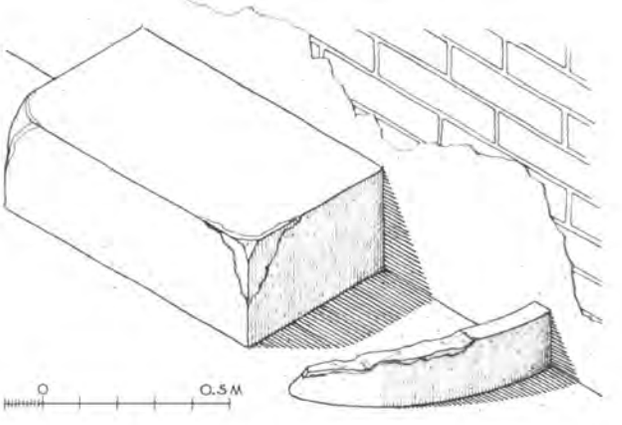

FIG. 264.—PHASE H. BENCH AND CURVED WALL IN JUDAIDAH JK 3:11 (FEATURE *9* IN FIG. 263).

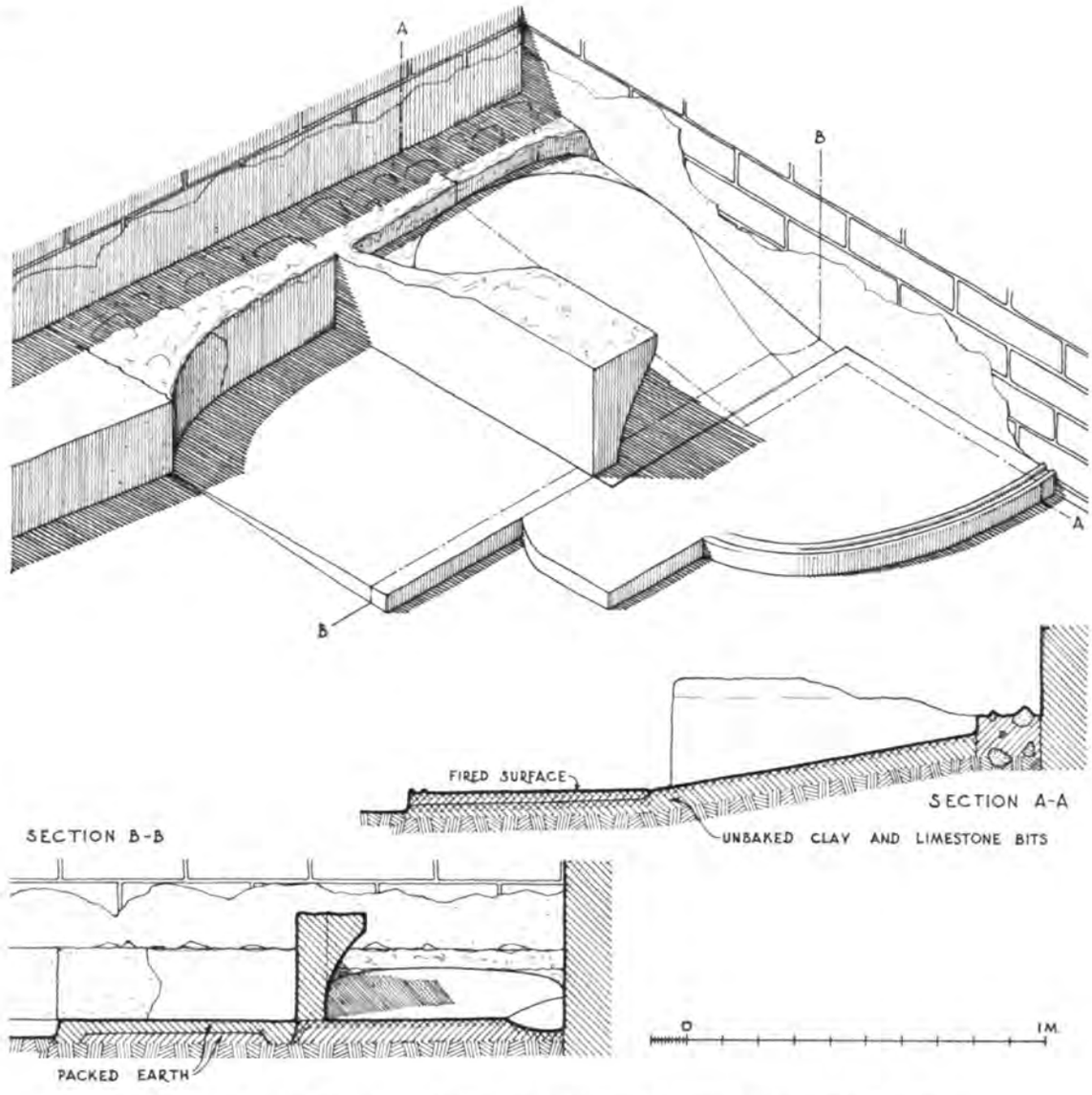

FIG. 265.—PHASE H. ARCHED "OVEN" IN JUDAIDAH JK 3:11 (FEATURE *8* IN FIG. 263)

little changed, but circulation from the outside was no longer through the exposed portion of the west wall of the south room; it may have been through a more southerly portion of that wall as suggested on Figure 266. Some small rooms were indicated to the north of the main rooms, and to the west were traces of what may have been a small stone-founded bin and a bit of east-west *libn* wall. Accessory features 1–2 and 4 are described above. Feature 3 consisted of several burnished and fire-hardened floors of marl (Pl. 10 *A*) built over feature 8 of level 11. The various floors had been renewed several times, however, and we were unable to determine just what belonged to the complex at any one moment during its use. It is less certain than feature 8 to have been an arched oven. If any one of the floors was arched over with a kind of roof, it was probably the little patch in the center against the north wall of the room, behind the bit of floor with a shallow hole (see Pl. 10 *A*). Features 1–4 all continued in use in level 8 and probably even in 7.

Floors 8 and 7 were apparently little more than relevelings of accumulated dirt, probably done by scraping off bumps and tamping, without any changes in the walls. They were not

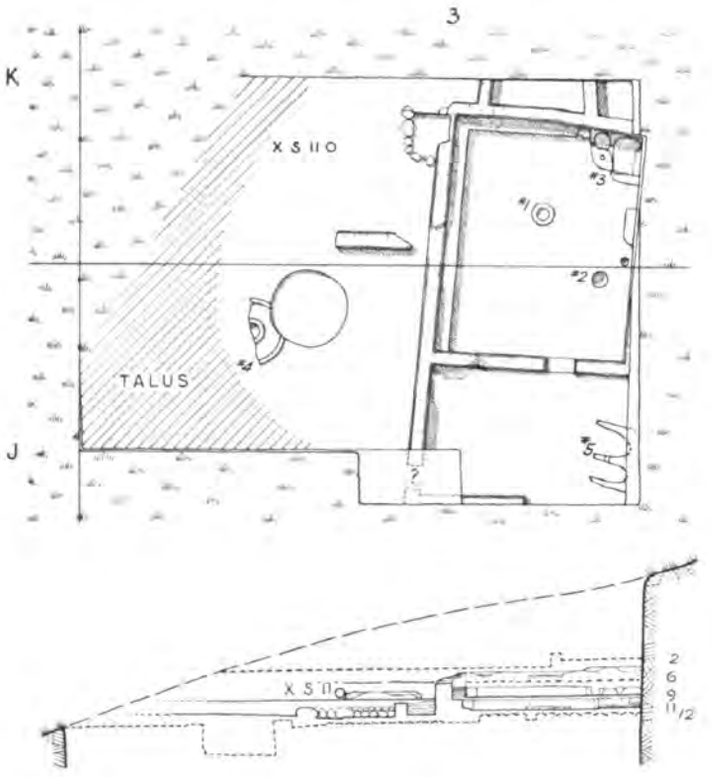

FIG. 266.—PHASE H. PLAN OF JUDAIDAH JK 3:10–7 (OR 9–7) AND SECTION OF JK 3:11–6. SCALE, 1:200

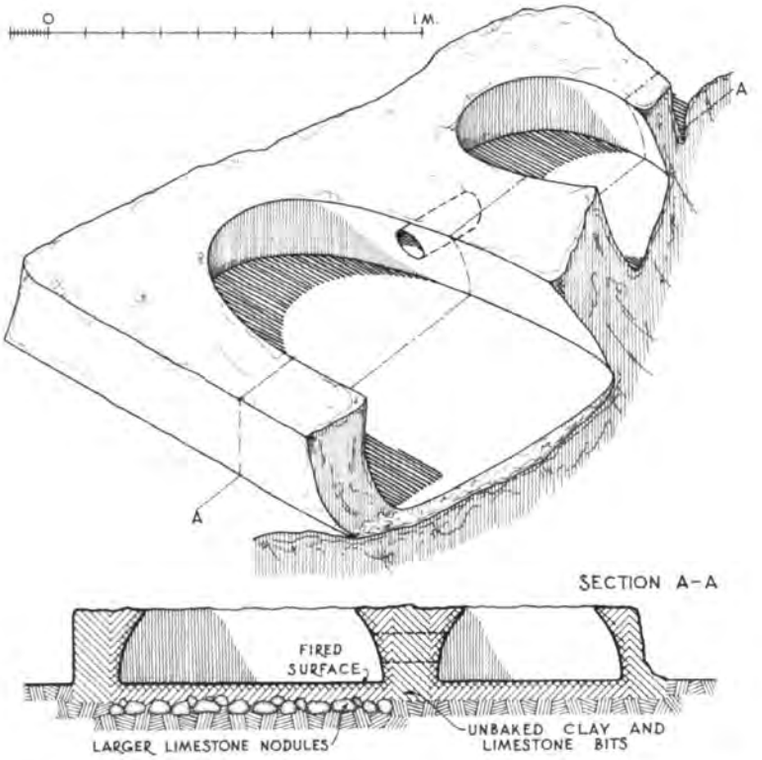

FIG. 267.—PHASE H. DOUBLE "OVEN" IN JUDAIDAH JK 3:8 (FEATURE 5 IN FIG. 266)

level in the absolute sense, for they sloped downward to the main features, which remained in use. A double "oven" (Fig. 266, feature 5) in the eastern portion of the south room was apparently built at the time of floor 8. It was of burnished and fire-hardened marl and interesting because its two chambers were connected by a hole (Fig. 267 and Pl. 10 *B–C*).

Floor 6, whose sherd sortings refer to Phase I, was almost at the level of the top of the *libn* bench which flanked the walls of the north room. It was not encountered outside the two main rooms and, since it covered features 1–3 (see Fig. 266), may or may not have belonged to the building (see p. 396).

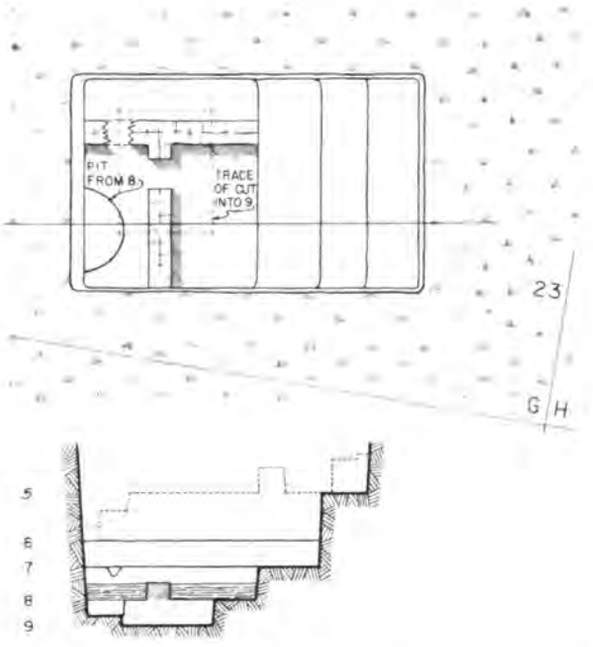

FIG. 268.—PHASE H. PLAN OF TA'YINAT T 4:8 AND SECTION OF T 4:9–6. SCALE, 1:200

On Ta'yinat no walls appeared in the exposure of T 4:9. The building intercepted in T 4:8 was exposed in a restricted area, and little of the plan is available. The *libn* walls were thicker than those of Judaidah JK 3. They account for a building with at least two rooms connected by a doorway (Fig. 268). A shallow silo was partially exposed in the western room. Floors 7 and 6 in T 4 were simply darkened or grayed lines with no traces of architecture save for the above-mentioned basin in 7 (see Fig. 268, section).

POTTERY

The description of the Phase H pottery depends largely on the sherds and complete pots from Judaidah JK 3. This is supplemented by the Ta'yinat T 4 occurrence and, to a small extent, by the samplings from the minor operations in Judaidah TT 20 and Chatal Hüyük W 16 as well as by a fair number of sherds (351) of Red-Black Burnished Ware and a few (8) of Brittle Orange Ware from Dhahab.[2] In the text figures the sherds from Ta'yinat and Dhahab are identified by letters (*T* and *D* respectively) unless they are illustrated separately (e.g. Fig. 270).

[2] As has been mentioned several times (e.g. p. 15), the Dhahab material can only be classified typologically. As far as a Phase H occurrence on Dhahab is concerned, the situation is briefly as follows:

There were 219 sherds of Phase G type wares (Plain Simple, Reserved-Slip, Incised and Impressed, and Multiple-Brush Painted) in the Dhahab sortings. It is, of course, possible that there was no Phase G occupation of Dhahab and

In each of the Phase H occurrences, save in the small W 16 exposure on Chatal Hüyük, there is adequate evidence that the main wares of Phase G continued in Phase H. The Chatal Hüyük exception probably depends on the very minute area opened; on the other hand, since Phase G type sherds were never observed as strays in any of the Chatal Hüyük sortings, that site apparently was not occupied in Phase G times. The larger and well stratified Phase H occurrences on Judaidah and Ta'yinat each had Phase G type wares, as did Judaidah TT 20 XIV 4 (which, as a step trench, has less validity).

Phase H is defined ceramically as beginning with the appearance of a significant bulk of Red-Black Burnished Ware. A few examples of this ware did appear on the later floors of Phase G in Judaidah JK 3 (see p. 294). The real introduction of the ware, however, seems to happen with floor 11 of JK 3, which is marked by an architectural change also. Some thirty Red-Black Burnished Ware sherds were actually present in the sortings from the debris above floor 12, but these may refer to minor disturbances attending the founding of the walls of floor 11. The deepest floor reached in Ta'yinat T 4 (the 9th) had Red-Black Burnished Ware sherds in preponderance, although Phase G type sherds also were present.[3]

The Phase H ceramic criteria are the following:

1. Persistence of characteristic Phase G wares, which decline markedly in proportionate appearance and which show some typological differences and a few new profiles: Plain Simple Ware, Simple Ware with Orange-Brown Slip and Burnish, Reserved-Slip Ware, Incised and Impressed Ware, Multiple-Brush Painted Ware, Third and Fourth Cooking-Pot Wares.
2. Appearance in bulk of Red-Black Burnished Ware.
3. Appearance of Brittle Orange Ware, three assumedly intrusive sherds of which were found in Phase G (see pp. 292 f.).
4. Presence of a few sherds of Metallic Ware.

The description which follows is based on total selected field samplings of 1,806 sherds and 61 complete or reconstructible pots. The stated proportions are based on the selected field samplings (1,188 sherds) from Judaidah JK 3 and Ta'yinat T 4 alone, since these two operations each yielded a significant succession of floors.[4]

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that these sherds refer to the ceramic products of Phase G types which were still being produced in Phase H times. In such case the pots shown on Figs. 203:2 and 222 (= Pl. 32:1) would have to be attributed to Phase H rather than Phase G, but the presentation of the Phase G pottery would not be otherwise affected.

It is assumed that the Red-Black Burnished Ware (351 sherds) and the Brittle Orange Ware (8 sherds) in the Dhahab sortings were manufactured in Phase H (rather than Phase I) times. This assumption follows from the fact that there was not a significant number of characteristic Phase I or later sherds in the Dhahab sortings; actually there were only one Phases I–J type goblet base and several questionable simple rim sherds. Hence, although both the Red-Black Burnished Ware and the Brittle Orange Ware are known to continue in Phase I, such does not seem to be the case on Dhahab, which lacks the other Phase I ceramic criteria.

Except for the two pots mentioned above, nothing was made of the Phase G type wares from Dhahab in the treatment of Phase G. Full advantage is taken here, on the other hand, of the Red-black Burnished and the Brittle Orange Ware sherds from Dhahab.

[3] Presumably there was a Phase G occupation on Ta'yinat in levels which we did not reach.

[4] These two operations, however, show some differences in the proportionate appearance of the various wares, although much larger areas would have to be opened before the significance of such differences could become apparent.

In brief the differences are as follows:

	Judaidah JK 3	Ta'yinat T 4
Phase G type wares	48%	18.5%
Phase H type wares	52%	81.5%
Total number of sherds in selected samples	935	253

In more detail the differences are as follows:

Plain Simple Ware

(21–26% of selected sherd bulk)

Megascopically, the sherds of this ware in Phase H context do not differ from their Phase G counterparts (see pp. 264 ff.). The sherds and the complete pots indicate a well fired wheel-made product, normally light greenish buff, neutral buff, or orange-buff in color. The mineral inclusions are fine. A few of the larger Judaidah pots have chaff tempering. The sherds of most of the new little cyma-profiled thin-bodied cups (see below) are very fine in texture and rather consistently light greenish buff in color. Surfaces are simply wet-smoothed, and some have self-slip; burnish is uncommon even on bowls. No more than 5% of the sherds have burnished surfaces, and about half of these show the simple pattern burnish characteristic of Phase G (Fig. 269:6–7, 39). As in Phase G, the horizontal rills left by the wheeling device are often quite marked, especially on inner surfaces.

Ordinary small bowl and cup profiles are present (Figs. 269:1–3, 270:1–3), though relatively rare. Larger semispherical bowls with splayed or inner-ledge lips persist (Figs. 269:4, 270:5–6, 271:3), and there are several carinated bowls (Fig. 269:5) and taller rather straight-sided bowls (Fig. 269:6) from Judaidah. Platters, characteristic of Phase G, appeared at both Judaidah and Ta'yinat (Fig. 269:8, 270:7, and 271:1, Pl. 26:4). A squat platter-like bowl form (Fig. 269:7), from Judaidah, is restricted to Phase H.[5]

One cup profile is peculiar to the Phase H sortings. The body tends to assume a more or less pure *cyma recta* curve (Figs. 269:9–10, 270:8, 271:2 and Pls. 26:2, 27:12, 86:3); the base is a delicate little ring (Fig. 269:11–12), usually rounded in section but occasionally flattened (Fig. 270:9), perhaps from use. The body walls are characteristically thin, and the surfaces are smooth save for some interior rills. Since a tendency toward the *cyma recta* curve is quite characteristic of Red-Black Burnished Ware deeper bowls and kraters (see Figs. 281–83, esp. 281:17), it seems very possible that the appearance of this cup profile in Plain Simple Ware at this time was due to imitation.

A strange collarless jar profile with outfolded lip (Fig. 269:13) is restricted to Phase H. Taller smoothly outflaring jar collars are common (Figs. 269:14–17, 270:10–12), including examples with channeled or split lips. High-shouldered jars with sharply outflared and sometimes channeled rims (Fig. 269:18–20) are characteristic of the Phase H sortings alone. A vertically splayed jar lip (Fig. 269:21) is unique. Rim sherds of large jars (Fig. 269:22–23) vary little from those of Phase G. A reconstructible jar with flat base (x2888) is of the same type as a Phase G example (see Fig. 203:11). Sherds of the "Syrian bottle" type (Fig. 269:24, 26, 27) and squatter bottles (Figs. 269:25, 271:4) also are present. Smaller krater-like cups are

Ware	JK 3	T 4	Total
Plain Simple	25–30%	8–13%	21–26%
Simple with Orange-Brown Slip and Burnish	4 sherds	1 sherd?	0–1%
Reserved-Slip	1–6%	0–5%	1–6%
Incised and Impressed	0–4%	0–3%	0–3%
Multiple-Brush Painted	9–14%	2–7%	8–13%
Cooking-Pot	3–8%	0%	2–7%
Red-Black Burnished	48–53%	70–75%	52–57%
Brittle Orange	0–4%	7–12%	1–6%
Metallic	0–1%	0%?	0–1%

Were it not for the fact that the sherd sortings of Judaidah JK 3:6 refer to Phase I, one might guess that the considerably smaller proportion of Phase G wares in Ta'yinat T 4 indicates that the Ta'yinat sherds represent a somewhat later aspect of Phase H than do the sherds from JK 3. However, JK 3:6 is hardly large enough in area or of sufficient architectural or stratigraphic substance to permit a very binding conclusion (see p. 396).

[5] Phase G Plain Simple Ware profiles comparable with those presented here are shown on Figs. 202–15. Unless otherwise stated, the Phase H profiles of all wares which continue from Phase G have counterparts illustrated in the Phase G chapter.

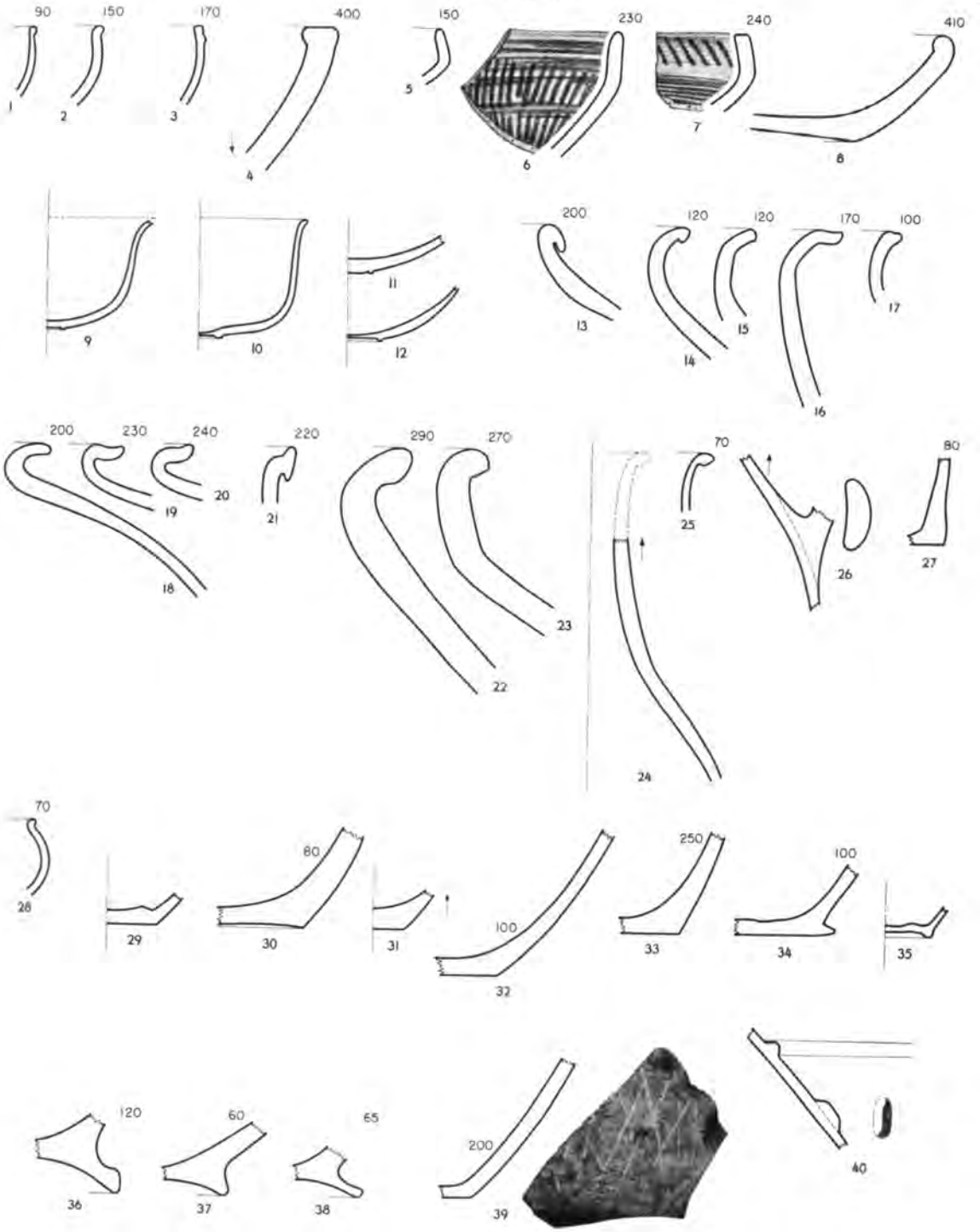


FIG. 269.—PHASE H. PLAIN SIMPLE WARE. SCALE, 1:3

rare (Fig. 269:28; cf. e.g. Fig. 206:4–5), their place being taken by Red-Black Burnished Ware forms. A squat little jar (Fig. 271:5) is not a typical form in the sherd sortings.

Flat bases are still most common (Figs. 269:29–34 and 39, 270:13–14); they may be string-cut (Fig. 269:29–30), smoothed (Fig. 269:31–32), or ash-laid (Fig. 269:33), and several are squashed out (Fig. 269:34). Simple low ring bases (Fig. 269:35) are less common than incipient pedestal bases (Fig. 269:36–38).

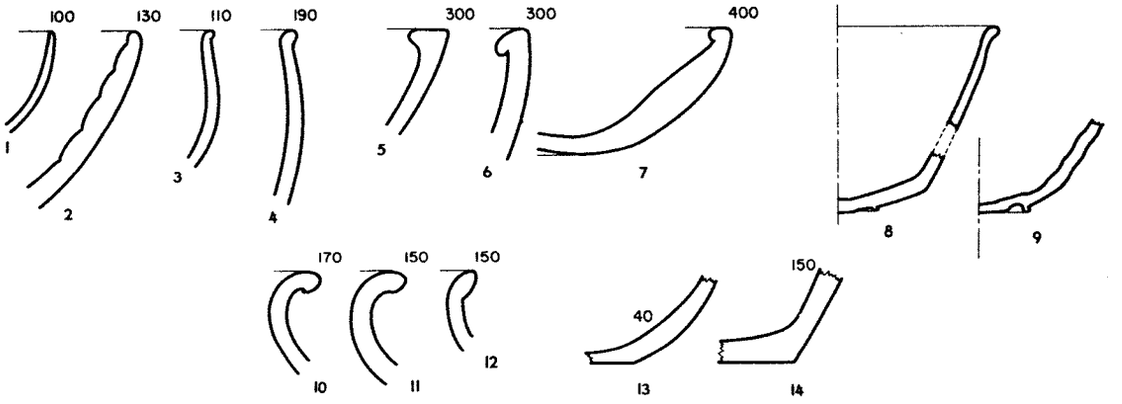


FIG. 270.—PHASE H. PLAIN SIMPLE WARE FROM TA'YINAT. SCALE, 1:3

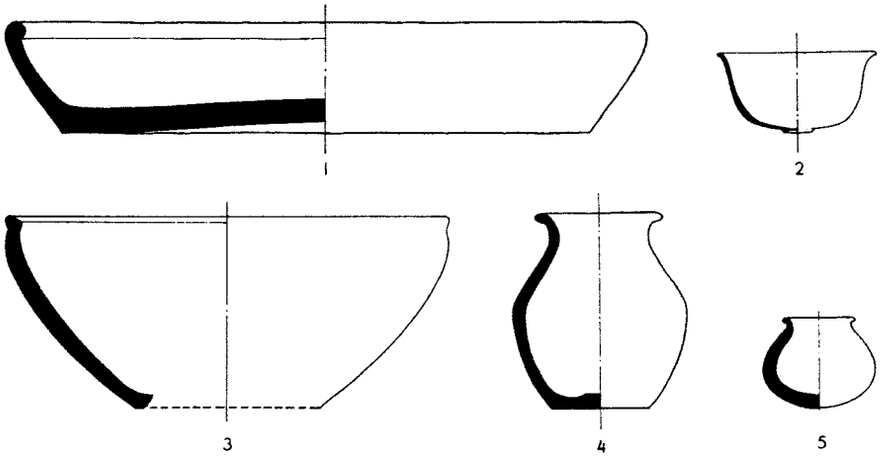


FIG. 271.—PHASE H. PLAIN SIMPLE WARE FROM JUDAIDAH (*1–2, 4*) AND TA'YINAT (*3, 5*). SCALE, 1:5

Secondary features remain uncommon. "Syrian bottle" handles are accounted for (Fig. 269:26), and there is a shoulder sherd with a raised plastic band and a blob (Fig. 269:40).

SIMPLE WARE WITH ORANGE-BROWN SLIP AND BURNISH

These sherds do not differ megascopically from those of Phase G. The body clay appears to be the same as that of the Plain Simple Ware. The surface was treated with an ocherous(?) slip of varying thickness, which tends to craze in the thicker examples. The four sherds from Judaidah JK 3 are burnished either with fairly continuous allover strokes (Fig. 272:1) or with open crosshatching (Fig. 272:2–3, Pl. 32:17). The single Ta'yinat sherd (Pl. 32:16) is a body fragment with allover vertical burnish; the clay is somewhat more brittle than that of the Plain Simple Ware.

RESERVED-SLIP WARE

(1–6% of selected sherd bulk)

As in Phase G, most of the sherds are in the Plain Simple Ware type of clay, while some are in a relatively sandless chaff-tempered clay (see p. 275). Examples of the chaff-tempered clay appeared on Ta'yinat as well as on Judaidah (Pl. 29:10). Several sherds of one pot (from JK 3:8) are in a unique brittle clay which is orange-brown buff on the surfaces and dark unoxidized gray in the core; there is a sparse concentration of large mineral inclusions. The decoration (Fig. 273:3, Pl. 29:5) also is unique, for the Phase H group, in that an opaque light brown slip was painted onto the surface in imitation of and in the characteristic motif of the normal

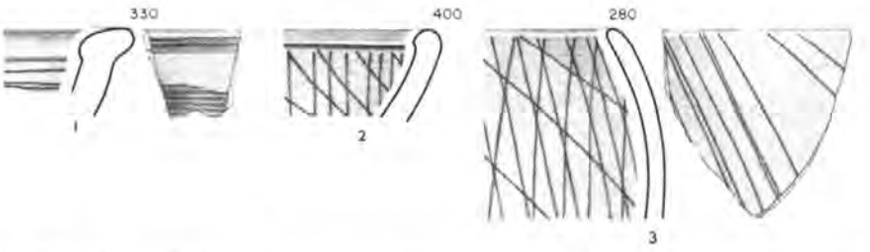


FIG. 272.—PHASE H. SIMPLE WARE WITH ORANGE-BROWN SLIP AND BURNISH. SCALE, 1:3

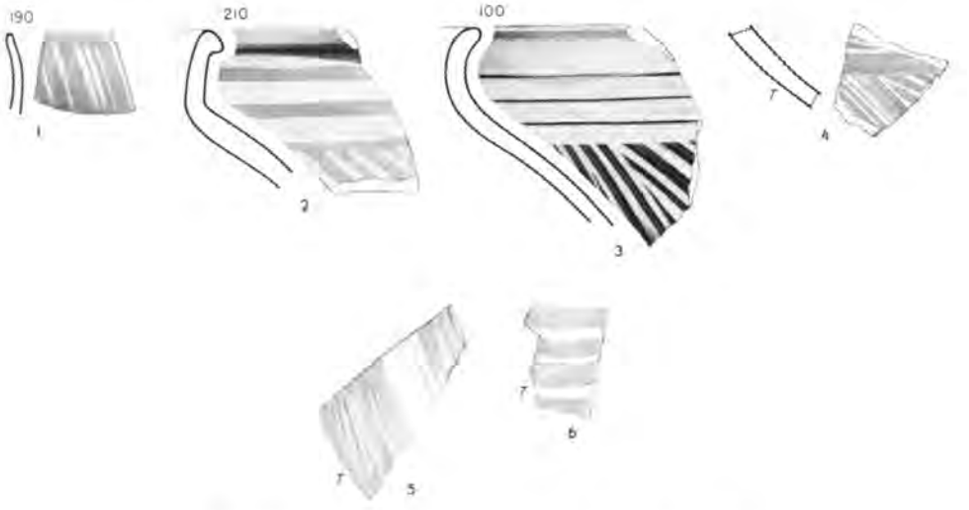


FIG. 273.—PHASE H. RESERVED-SLIP WARE. SCALE, 1:3

reserved-slip decoration. The usual surface treatment (Fig. 273:4) continues the Phase G tradition exactly (see p. 276); an opaque light creamy slip was wiped off or reserved in bands and fine oblique radial lines. A chaff-tempered sherd (Fig. 273:5), which cannot be oriented with certainty, probably has wide oblique radial lines. A sherd of a jar which apparently had merely a succession of reserved bands appeared on the highest floor of Phase H in Ta'yinat T 4 (Fig. 273:6, Pl. 29:6). This simple banded motif is known from Phase I also.[6]

Sixteen sherds from Judaidah and Ta'yinat were selected by Braidwood as typical Phase H material because of their chaff tempering. There was no distinction possible in thin section between the Judaidah and the Ta'yinat sherds. They are made of a variant of the *serpentine* type clay which contains much more plagioclase than do the clays of any of the earlier wares. The chaff is much coarser than that in Phase F and resembles that of Phases B and C. It is a minor constituent in most of the sherds. All the pieces are oxidized at least on the surface; a few have light gray cores. One sherd in this group represents an imported vessel.—MATSON.

The sherds are mainly from collared jars, the profile of Figure 273:2 being typical. Bowls (Fig. 273:1) are rare, as in Phase G.

[6] See p. 351, n. 4, on the possibility that Judaidah JK 3 and Ta'yinat T 4 represent different time ranges within Phase H.

Incised and Impressed Ware
(0–3% of selected sherd bulk)

As in Phase G, the available samples appear megascopically to be of the Plain Simple Ware clay (see p. 277). Two sherds (Fig. 274:1, 7 and Pl. 32:9) may have reserved-slip decoration, but the effect is so faint and uncertain that it is not rendered in the drawings. Most of the sherds probably refer to jars. There are, however, two bowl rims (Fig. 274:4, 8), one with part of a vertically pierced lug, and the rim of a small hole-mouth vessel (Fig. 274:5). There is also a fragment of a pierced high pedestal base or stand (Fig. 274:2).

The designs include circular and semicircular impressions (Fig. 274:1–3, 6–7, and Pl. 32:9), incised wavy bands (Fig. 274:4–5), a crosshatched band (Pl. 32:6), and incised chevron bands (Fig. 274:8).

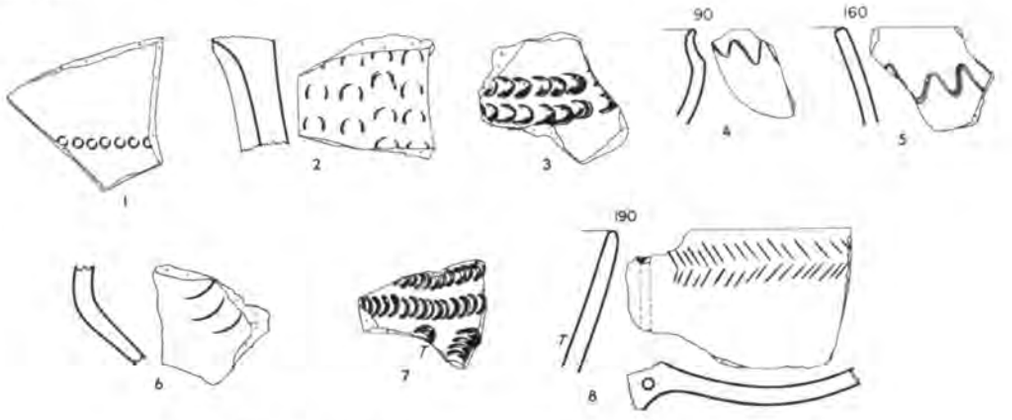


Fig. 274.—Phase H. Incised and Impressed Ware. Scale, 1:3

Multiple-Brush Painted Ware
(8–13% of selected sherd bulk)

As regards clay most of the examples are consistent with those of Phase G (see p. 281). However, *ca.* 20% of the Phase H selection from Judaidah JK 3 appears in an apparently finer-grained and less completely oxidized clay with appreciable traces of chaff temper (Pls. 30:12, 31:3), which corresponds megascopically to the chaff-tempered clay of the Reserved-Slip Ware (see above). Otherwise there is not much to distinguish the Phase H from the Phase G examples of this ware, save that the paint seems sometimes to be a thinner solution in Phase H. This feature is particularly noticeable on the sherds of chaff-tempered clay and may be due merely to the apparently greater porosity of this clay.

The eleven sherds from Judaidah and Ta'yinat, including both normal and chaff-tempered examples, chosen by Braidwood to illustrate the survival of the multiple-brush technique, are all made of the *serpentine* type clay and are very fine-textured. Differences between the two sites cannot be distinguished. If the sherds examined can be considered representative of the group, firing conditions were less well controlled in Phase H than in Phase G, for dark cores occur in several sherds.—Matson.

The profiles available from Judaidah include the normal krater-like cups (Fig. 275:1–2), jars (Figs. 275:3–6 and 276, Pl. 30:7), bottles (Fig. 275:7–8), and goblet-like forms (Fig. 275:9). Channeled lips are still present (esp. Fig. 275:4, 8). The Ta'yinat rims indicate low-collared jars (Fig. 277:1–2; cf. esp. Fig. 224:4) and bottles (Fig. 277:3). The essential variety of the Ta'yinat motifs is illustrated by Figure 277. Since the Ta'yinat sampling was small, nothing can be made of the fact that a fair proportion of the sherds show burnished surfaces, over which the painted decoration was applied (Fig. 277:8–9).

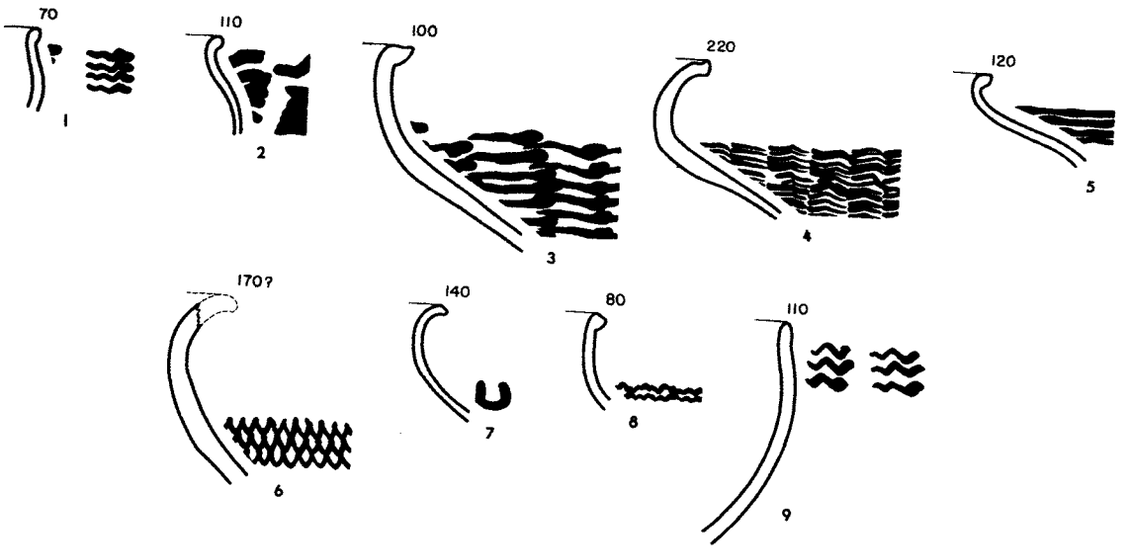


FIG. 275.—PHASE H. MULTIPLE-BRUSH PAINTED WARE. SCALE, 1:3

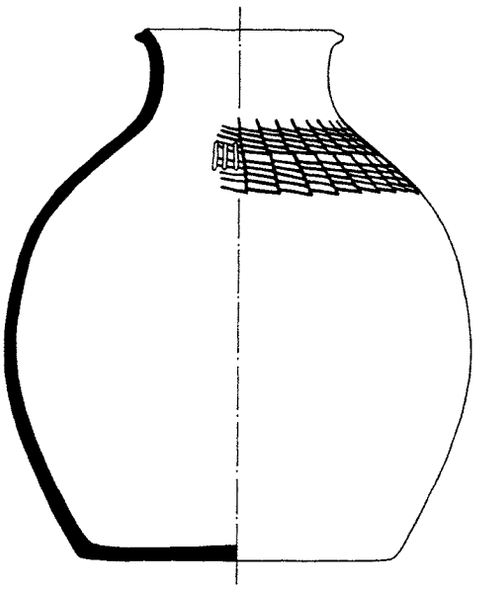


FIG. 276.—PHASE H. MULTIPLE-BRUSH PAINTED WARE POT (x2430). SCALE, 1:5

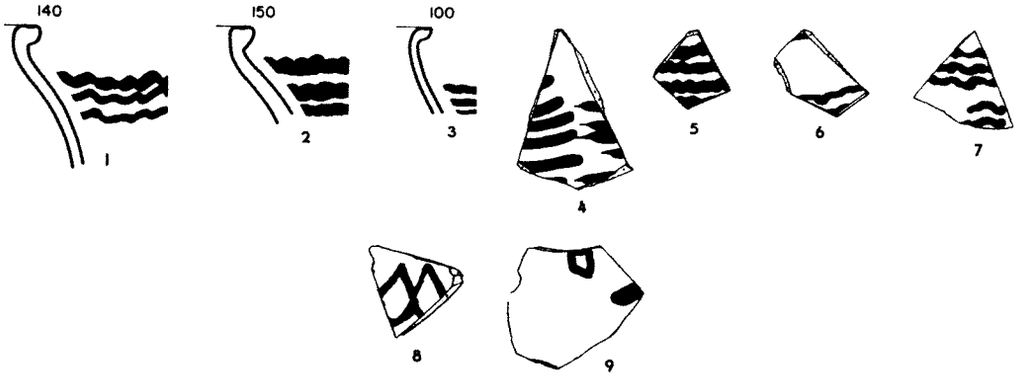


FIG. 277.—PHASE H. MULTIPLE-BRUSH PAINTED WARE FROM TAʿYINAT. SCALE, 1:3

Mrs. Allen prepared a chart of the main motifs (Fig. 278), along with the following notes:

Roughly three hundred sherds are represented by the Phase G chart (Fig. 226), whereas only forty were examined for the Phase H chart. It is interesting, then, considering the difference in total sherd bulks, to find that the general proportions observed for the various groups of designs in G (see p. 285) hold true for H: that is, in both cases Group I (wavy-to-straight horizontal lines) represents about four-fifths of the total sherd bulk, Group II (check marks) about one-fifth, and Group III (miscellaneous) a very small fraction. Whether the order of popularity of the design types within the groups—found in G to be the continuous border, the discontinuous border, and the continuous border with discontinuous pendants—holds as well for H is not so clear; it seems to hold in general, and at any rate the designs are arranged in that order.

There are no new motifs and no new combinations of motifs in Phase H; every sherd in Phase H, with perhaps two or three exceptions, can be very satisfactorily matched by a Phase G sherd. We might perhaps say, in general, that the execution of the painting in Phase H seems a little heavier and more careless; but, in view of the small bulk of Phase H sherds and of the very real stylistic continuity, it seems straining the evidence to venture more than that.

Judaidah yielded five examples of rather unsuccessful attempts to combine reserved-slip and multiple-brush decoration. The illustrated example (Pl. 31:3) happens to be made of the chaff-tempered clay; it is from a collared jar of the type normal for Reserved-Slip Ware.

Painted Ware Partially or Not at All Dependent on the Multiple Brush
(0–2% of selected sherd bulk)

All available examples of this group are from Judaidah. They correspond megascopically to the Multiple-Brush Painted Ware, but only one sherd (Fig. 279:4) is of the chaff-tempered type. Some sherds show the use of a multiple-brush device in combination with the dot-filled triangle motif (Fig. 279:1, Pl. 31:15). There are a few where the use of the multiple brush is not certain (Fig. 279:2). The rest of the illustrated examples do not indicate use of the multiple brush at all. Their designs include dot-filled triangles (Fig. 279:3), zones of widely spaced swags and curves (Fig. 279:4), a zigzag wherein the individual strokes of the brush may be observed (Fig. 279:5). Two sherds (Fig. 279:6–7) are very likely strays from Phase I or J. One design (Fig. 279:8) is unique.

Cooking-Pot Wares
(2–7% of selected sherd bulk)

Cooking-pot wares appeared only on Judaidah and were restricted almost entirely to the lowest two floors of the Phase H range in JK 3. Examples of the Third Cooking-Pot Ware (pp. 290 f.) are most numerous. The Fourth Cooking-Pot Ware (see p. 292) also is represented (Fig. 280, Pl. 26:7), and two sherds are possibly of the First Cooking-Pot Ware (pp. 288 f.). No sherds are illustrated, for the available Phase H examples differ in no significant way from their Phase G counterparts. Cooking pots seem to be the first Phase G holdovers to die out.

Red-Black Burnished Ware
(52–55% of selected sherd bulk)

This very characteristic ceramic may be handmade in large part. Usually the surface is so completely burnished and polished that any wheel marks which may have existed would have been obliterated. The handling of the still relatively soft pots during the burnishing operation may have caused the occasional irregularities of surface which are observable. There may be wheel marks (horizontal scratches) on the untreated inner surfaces of narrow-necked jar sherds, but such cases are rare and not completely convincing. The firing is medium to light, with great variation in the extent of oxidation—black throughout, half black (usually toward

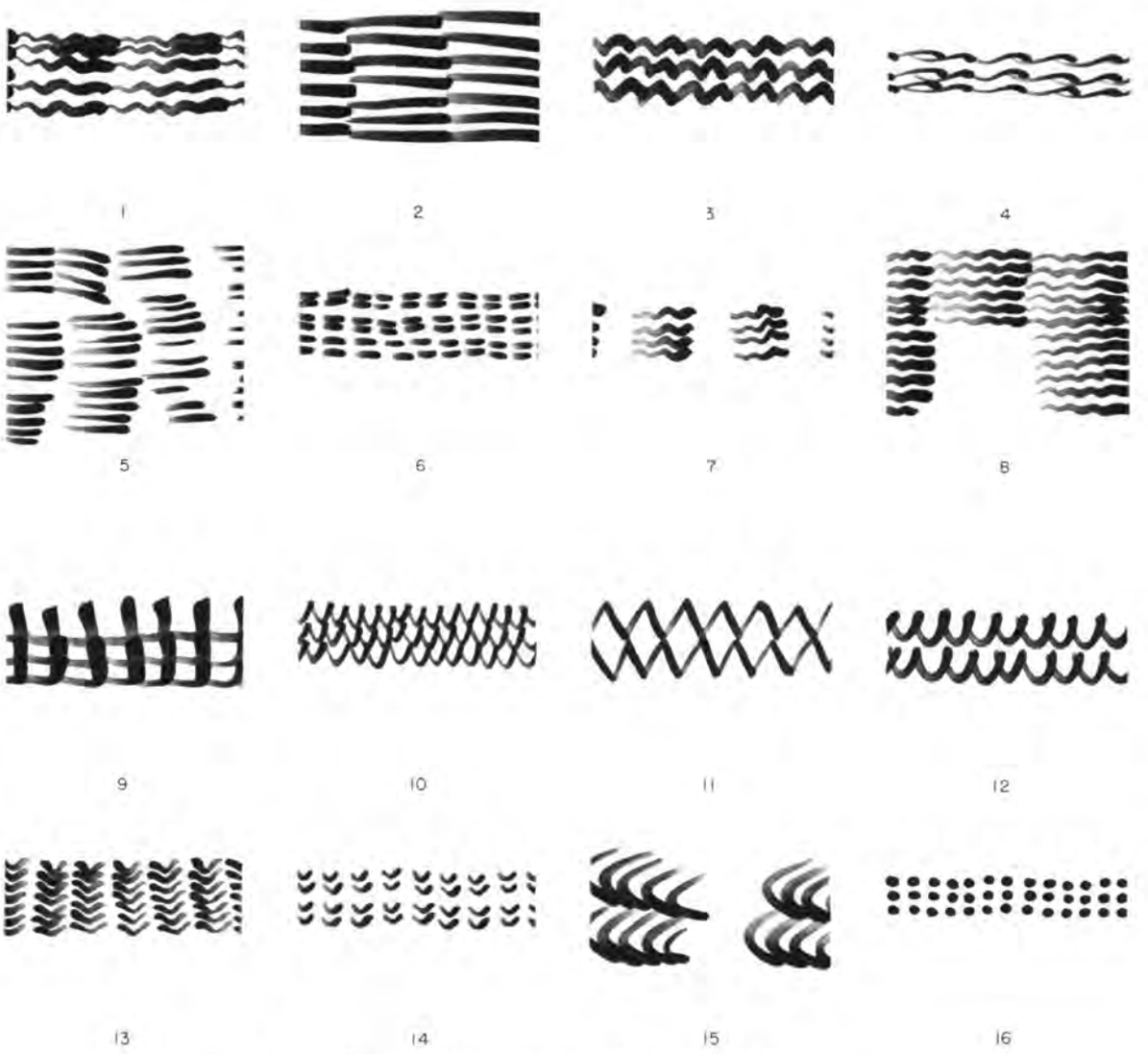


FIG. 278.—PHASE H. MULTIPLE-BRUSH PAINTED WARE MOTIFS

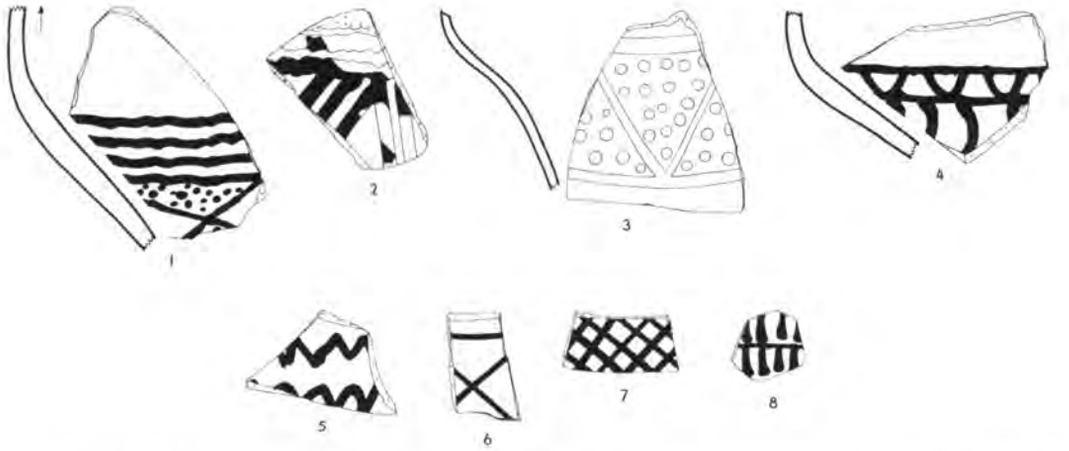


FIG. 279.—PHASE H. PAINTED WARE PARTIALLY OR NOT AT ALL DEPENDENT ON THE MULTIPLE BRUSH. SCALE, 1:3

the outer surface), or completely oxidized. The paste is normally red-orange buff, but the color ranges from light tan-buff to the unoxidized[7] black. The mineral inclusions are red-orange, white, gray, and black. They appear in concentrations of 35% sparse, 61% medium, 4% heavy; the sizes are 17% fine, 53% medium, 14% coarse, 16% very coarse.[8] The clay is normally plant-tempered also, usually with a material finer than the ordinary chaff (which sometimes occurs as well). Shell fragments are present in a small percentage of the sherds, especially in the larger unslipped Ta'yinat examples. The appearance of the fabric varies considerably with the thickness of the body wall; sherds of small thin-walled vessels are rather fine and dense, and sherds of large thick-walled pots are more coarsely granular or laminated. The fracture varies accordingly but is most typically rough and irregular. The fabric seems to be medium soft.

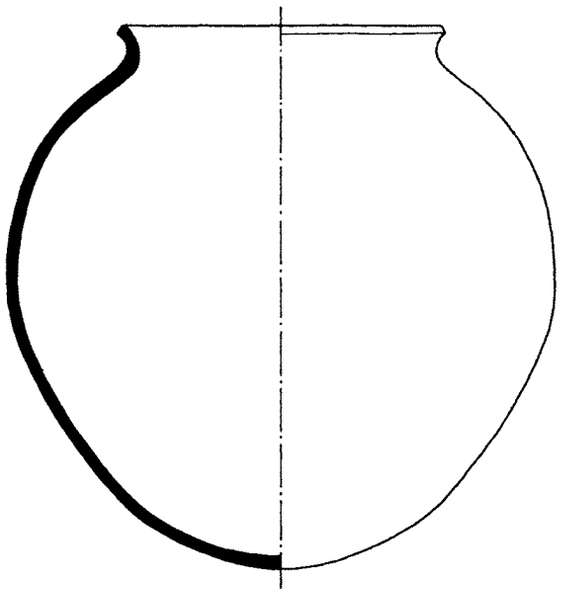


FIG. 280.—PHASE H. COOKING POT (x2597). SCALE, 1:5

A high percentage of the sherds are slipped. The nonslipped examples are from larger jars and lids; the surface is tannish buff with gray-brown or gray-black smoked areas (see Pls. 86:2, a Second Mixed Range example, and 87:7). The slipped surface is normally a full red-orange tone (Pl. 86:1),[9] with extremes of light reddish orange-buff and ideally a jet black (Pl. 86:4–5) which was achieved by a special treatment (see p. 361). The ideal was not always reached, for there are brown-black tones or even areas of variable brown-black tones between red-orange and black areas. In somewhat over a third of the examples the potters definitely attempted to achieve a red-and-black effect on the outer surface by allowing the blackened area to stop 1–2 cm. below the lip (Pl. 86:4–5). This effect, together with the typical forms and plastic decoration, makes the ware very distinctive. However, a slightly larger proportion of the sherds show no attempt at blackening whatsoever, but are red-orange on both the inner and the

[7] The black may also be artificially created according to Matson (p. 361).

[8] These percentages are based on a gross examination of 130 sherds: 50 from Judaidah, 50 from Ta'yinat, 30 from Chatal Hüyük. For the Judaidah samples, the concentration is predominantly sparse and the sizes are about equally scattered from fine to very coarse. For the Ta'yinat and Chatal Hüyük samples, the concentration is predominantly medium and the sizes are predominantly fine to medium.

[9] The later Phase H and the Phase I potters achieved an even redder red-orange surface color, though never in the preponderant number of sherds.

outer surface. The remainder of the sampling shows various smoked accidents, more or less successful attempts at an all-black surface, and the unslipped tannish-buff surface.

An excellent allover burnish is normal (wherever a burnishing tool could reach) and is usually so carefully done that few individual burnish strokes may be observed. A high luster results; this is probably due to some extent to polishing also (see Matson's remarks below). But for all its brilliance, the surface is not a good one. There is usually abrasion, especially on the insides of bowls, where the slip flakes off completely (see Pl. 33:6, from early Phase I, for a case in point).

Plastic decoration is quite usual (see Pls. 33–37, 86). It was probably done by pressure with a simple modeling tool while the pots were still soft. Impressed or incised decoration, frequently with white fill (see Pl. 37:1, 4–6), is restricted in Phase H almost entirely to lids.

This colorful group of sherds with red, black, and tan polished surfaces is of much technological interest. The natural color of the clay when fired to moderate temperatures is tan. The red surfacing is a red slip of high iron content. The black coloration occurs almost exclusively on the exterior from the base to just below the rim. It penetrates almost as far as the interior surface in some cases. It was produced after the pottery was well fired by immersing the still hot pot almost up to the rim in hot oil or grease or by rubbing it with an organic material. These techniques, together with data on the color distribution, will be discussed in detail in the final report to be published in the volume of technical studies. This archaistic tendency in decoration with good control of the techniques involved is an interesting culture trait.

This ware was manufactured from at least two different kinds of clay: the *serpentine* type, to which clay pellets may have been added as tempering material, and a variant of the *calcite* type that contains much quartz. The latter tends to be red-burning and may help account for the fact that a red slip is used on *ca.* 80% of the tan *serpentine* type sherds but on only a third of the *calcite* type. The well purified slip has a maximum thickness of 0.2 mm., but 0.1 mm. is common. Further discussion of the pastes and the slip is likewise reserved for the final report. If the ware had been fired much above 800° C., the calcite in the paste would have decomposed. However, it was well fired.

It is interesting that in Phase H there is a marked departure from the use of traditional clays and manufacturing techniques. The procedures now used are very similar to those employed at the same time in regions to the north and south of the ʿAmuq.—MATSON.

The profiles available in the Red-Black Burnished Ware are generally characteristic. Bowls are quite common. Relatively low open bowls (Figs. 281:1–4 and 282:1, Pl. 33:2) are closely allied to somewhat higher and thinner-walled semispherical bowls which are most characteristic of Judaidah (e.g. Fig. 281:13–15; see also Pl. 33:9, from Phase G).[10] Lower semispherical bowls have a more or less marked inturning of the rim (Fig. 281:5–6) or a flattened or splayed lip (Fig. 281:7–8). One complete example is not illustrated (e181) but has a counterpart in Phase J (see Fig. 305:1). The most characteristic bowls are relatively low and vertical-sided (Figs. 281:9–12 and 282:2, Pl. 33:1). The vertical body, the rather parabolic thinning at the lip, and the concave base (see Fig. 285:20–24) make the form easily recognizable. A Second Mixed Range bowl (Fig. 358:1) is quite typical. Moreover, bowls of this form often have the intentional red-and-black effect (see p. 360), while the lower open bowls are red-orange all over. Higher semispherical bowls (Figs. 281:13–15, 282:3) follow the vertical-sided type in the parabolic thinning at the lip, the concave base, and occasionally in attempts at the red-and-black effect. One example (Fig. 281:13) is somewhat exceptional in having a red outer surface and a blackened inner surface.

[10] The number of examples available in the individual profile types is not sufficient to indicate whether any were restricted to one site. The types for which a fair number of examples exist are represented at all the sites and in all operations; types represented by only several examples appear at present to be restricted. Further excavation would no doubt change this picture.

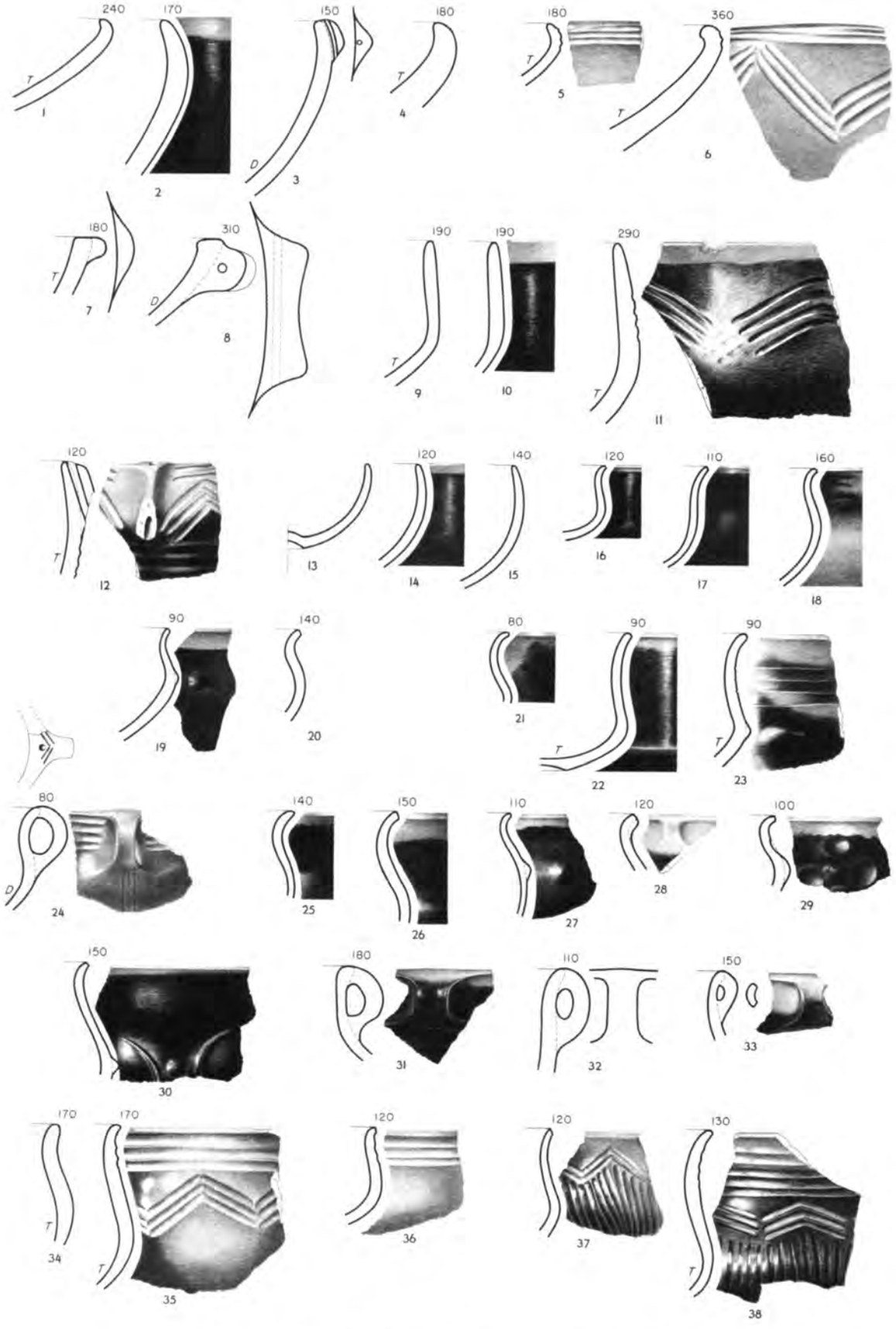


FIG. 281.—PHASE H. RED-BLACK BURNISHED WARE. SCALE, 1:3

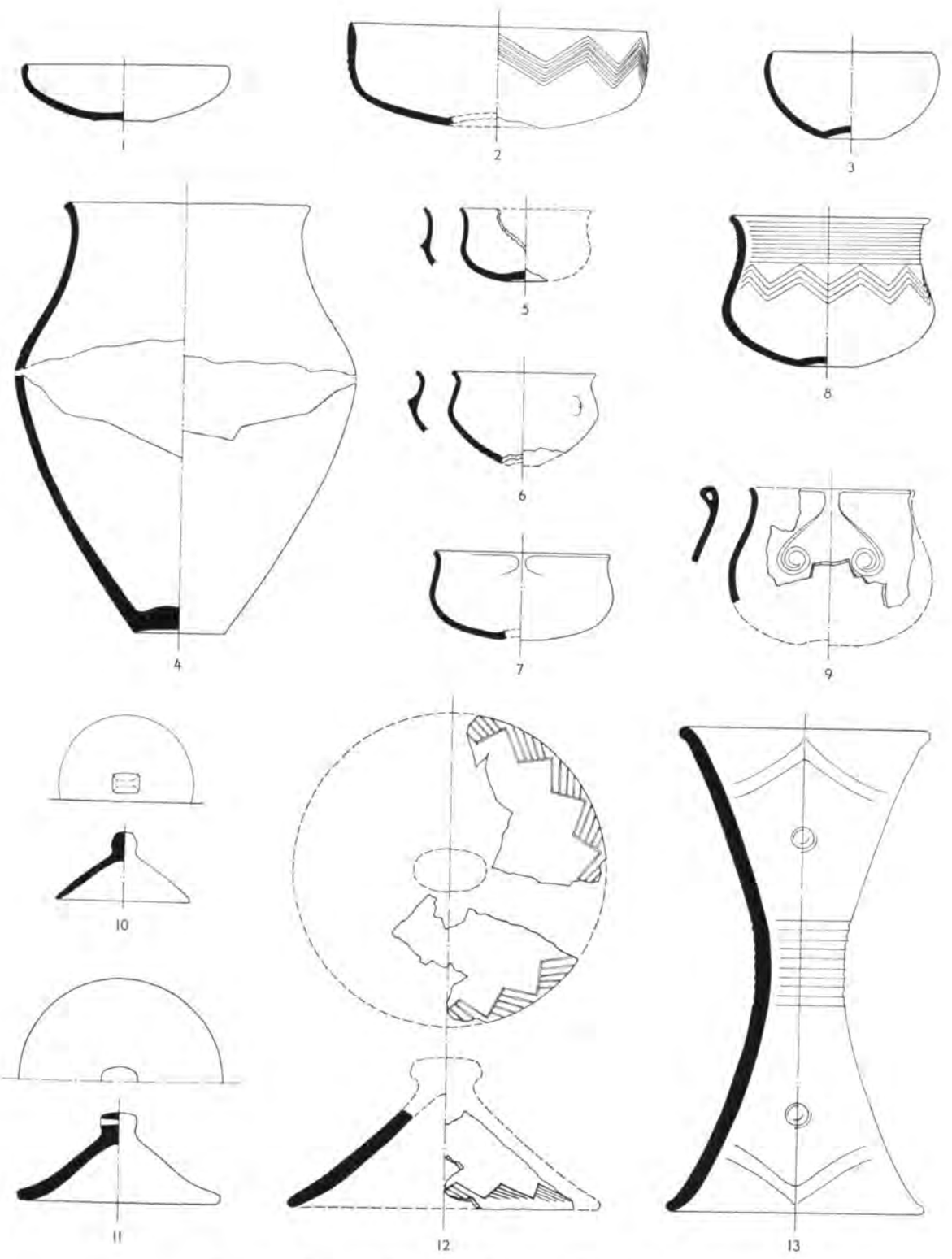


FIG. 282.—PHASE H, RED-BLACK BURNISHED WARE. SCALE, 1:5

Vessels relatively taller than the bowls considered above have a wide range of sizes and height-to-diameter relationships within one general profile series. The body has ideally a *cyma recta* curve (Fig. 281:17), but there are innumerable variations in length and orientation of the curve in vessels ranging from lower bowls through kraters to taller jars. The *cyma recta* curve is one of the hallmarks of the Red-Black Burnished Ware. It is difficult to distinguish the various profile types clearly, but the series is illustrated as follows: lower bowls (Figs. 281:16–20 and 282:5–7, Pl. 33:8), taller cuplike forms (Fig. 281:21–24), kraters (Figs. 281:25–38 and 282:8–9, Pl. 33:5), and taller jars (Figs. 283:5–21, 282:4[11]). The intentional red-and-black effect is especially popular in the smaller vessels of this series; the larger vessels may have the red-and-black treatment or the dull unslipped tannish-buff surface.

Sherds suggesting the hole-mouth profile are rare (Fig. 283:1–2) and come only from Judaidah; sherds indicating large "rail"-rim jars (Fig. 283:3–4, Pl. 35:15) also are rare, and they appeared only on Taʿyinat and Dhahab. One sherd shows a low vertical collar (Fig. 284:1). Taller outflared collars of large jars (Fig. 284:2–4) and a bottlé or pitcher (Fig. 284:5, Pl. 36:1) are from the Taʿyinat sortings. There may be some tendency for the large collared jars to have only the dull unslipped surface.

Also characteristic is a hollow doubled-flared cylindrical form (Fig. 282:13, Pl. 37:11).[12] It is often difficult to be certain whether rim sherds belong to such objects or to jars, save that the rim diameters of the complete examples are relatively smaller in relation to body thickness than is usual for jars. The probably typical rims appear on Figure 284:6–8, oriented downward. More questionable examples (Fig. 284:9–11) are oriented upward. One sherd (Fig. 284:12) represents either some form of pedestaled vessel or the cylindrical form described above, but with closed center.

Few other vessel forms are available. One example of a semispherical cup with cylindrical spout appeared on Taʿyinat (Fig. 284:13). There are sherds of two footed rectangular vessels (Fig. 284:14–15, Pl. 36:9) from Dhahab. However, pot lids (Figs. 285:1–19 and 282:10–12, Pls. 37:1–3, 5 and 87:6) are very characteristic. They appeared in all Phase H operations but were particularly numerous on Judaidah. They are conical in profile and provided with plain or pierced knob handles. The surface is generally smoke-grayed (Pl. 87:6) or tannish buff. There are a few good black examples but none that are red-orange all over, and the black-and-red effect does not seem to have been attempted. Finally, there are "andirons" (see Fig. 290), which are discussed under the other clay objects (pp. 372 f.). They are noted here because they are produced in the clay of Red-Black Burnished Ware. However, good black or red-orange surface coloration is even more rare than with the lids, and burnish is either carelessly executed or nonexistent.

Bases are of three main types: concave, flat, and raised or pedestal. Concave bases (Fig. 285:20–24, Pl. 37:9–10) are characteristic of higher bowls (especially the vertical-sided type shown on Fig. 282:2) and kraters (e.g. Fig. 282:8).[13] Flat bases (Fig. 285:25–31) are usually from vessels with relatively thick walls and are known to have been used for larger jars (Fig. 282:7; see also Fig. 306:1, 3, of Phase I); it is not unusual for these flat bases to be somewhat concave (Fig. 285:26–27). Figure 285:30 is from a bowl, for the inside surface is well burnished,

[11] The complete Phase I examples (e.g. Pl. 34:2–3) are most typical, however.

[12] The use of such objects is uncertain. They were first considered pot-stands, but we soon noticed that the inner rim surfaces of the sherds had not suffered more than the other surfaces from abrasion, which would certainly show in objects of so soft a fabric if they habitually received jars and bowls. Moreover, round-bottomed vessels do not seem to be characteristic of the ware. Our foreman, Abdullah, suggested that such an object might have been used as a *ṭabal* ("drum"), with skins stretched over the openings and connecting strings bound tightly about the center to take up the slack. Another suggestion was that such an object might be a sort of flue, functioning as do pieces of stovepipe which local farmers now hold over charcoal braziers when they start fires. The available samples are not significantly smoke-blackened, however.

[13] The concave base is essentially the same as the omphalos of Greek times.

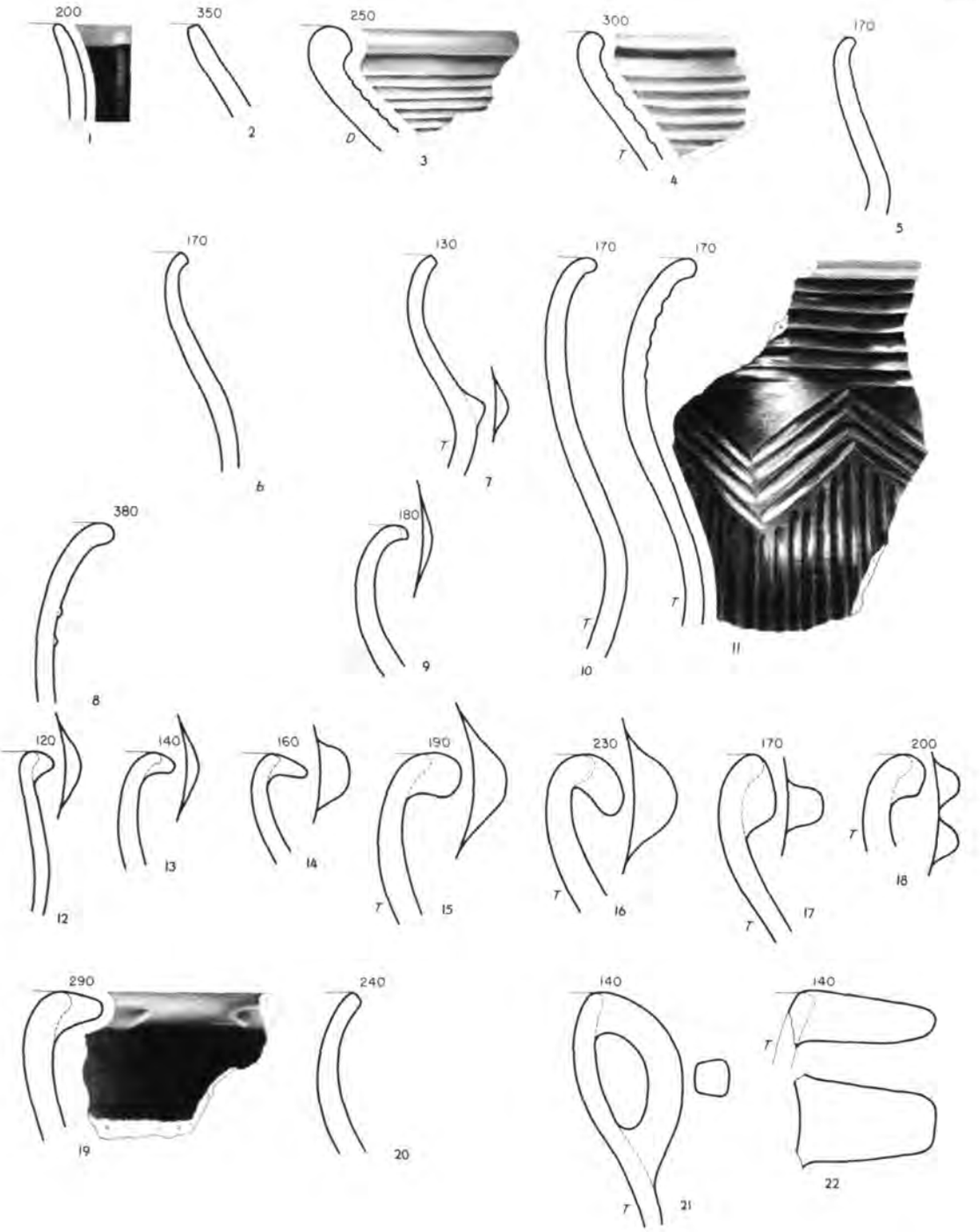


FIG. 283.—PHASE H. RED-BLACK BURNISHED WARE. SCALE, 1:3

and it is probable that the bases of the lower bowls (Fig. 281:1–8; see also Fig. 305:1–2, of Phase I) were most usually flat or raised flat (see also Figs. 285:43, 282:1). Incipient pedestal bases such as that shown in Figure 285:32 are unusual. Proper pedestal bases (Fig. 285:33–35) are fairly common, particularly on Ta'yinat (see Fig. 305:3 for Phase I complete bowl with this type of base).

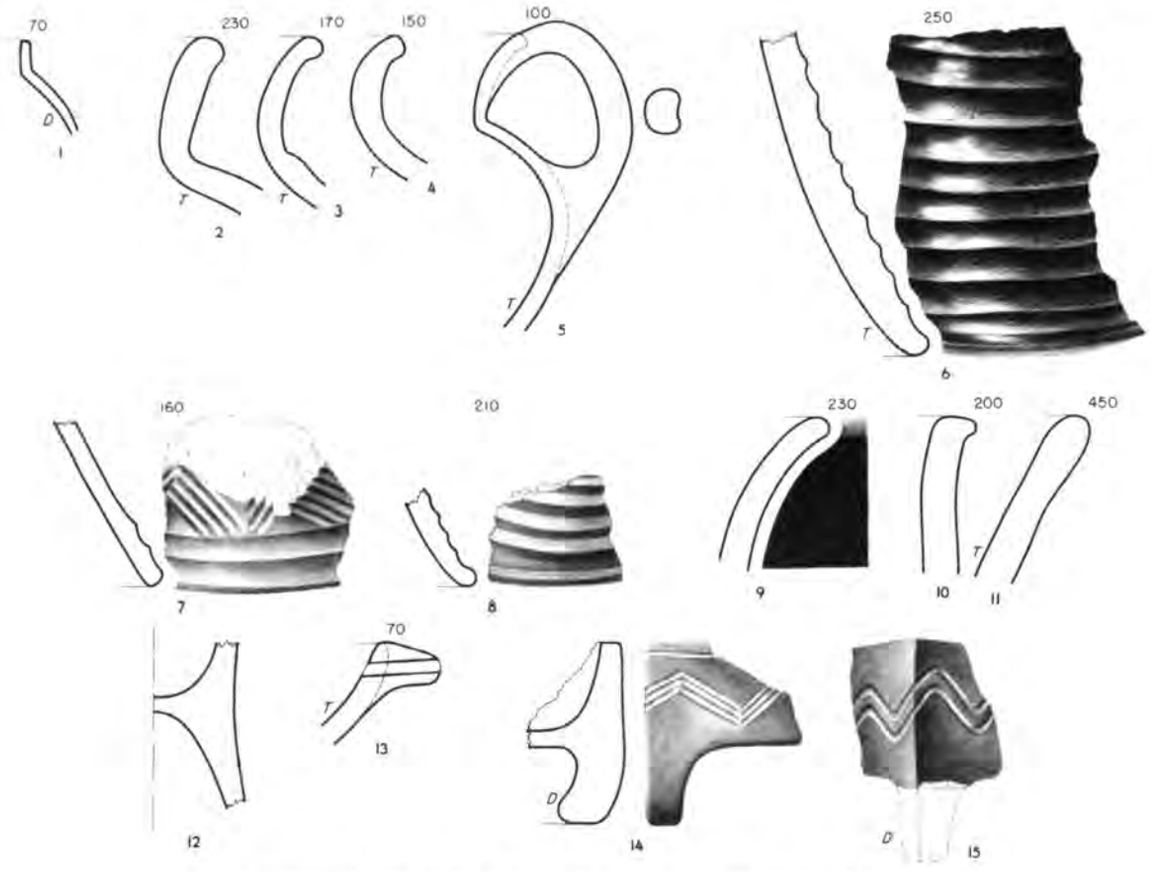


FIG. 284.—PHASE H. RED-BLACK BURNISHED WARE. SCALE, 1:3

There is a fair variety of handles. There may have been pierced blobs for string attachment, since there are numerous cases of unpierced blobs on the *cyma-recta* vessels (e.g. Figs. 281:19, 23, 27, 29, 282:5–6, and 283:7). Probably three blobs were symmetrically arranged on the shoulder.[14] At present their only conceivable function is as decoration. Ledge handles, both functional and vestigial, are fairly common, especially on taller jars (Fig. 283:9, 12–19 and Pl. 35:17). They also appear on low semispherical bowls (Fig. 281:7). There is one example of a widely projecting ledge (Fig. 283:22), which may refer to either a jar or a bowl. One example of a long horizontally pierced ledge (Fig. 281:8, Pl. 35:2) appeared on Dhahab, and there are several cases of vertically pierced types (Fig. 281:3, 12). Loop handles are not unusual (Figs. 281:24, 31–33, 282:9, 283:21, and 284:5, Pl. 36:1–2, 5–6). Two examples, on a jar and a bottle or pitcher (Figs. 283:21 and 284:5), allow for at least a two-finger hold. Those on the krater-like vessels are quite small, rarely allowing even a one-finger hold. The cross section tends to be ribbon-like (Fig. 281:33), and each edge (as seen in front elevation) often flares out decoratively (Fig. 281:31–33, Pl. 36:5). In an extreme case (Fig. 282:9) the flares end in spirals. There are also cases where only a minute unpierced vestige of this type of handle is used (Figs. 281:28, 282:7).

The decoration is of two main types: the intentional red-and-black effect (see p. 360 and Pl. 86:4–5) and plastic flutes, corrugations, and other motifs made while the pots were still

[14] On the pot shown in Fig. 282:5 there is one blob extant; enough of the pot is preserved to indicate that not more than three blobs could have been used if they were symmetrically arranged. On the pot shown in Fig. 282:6 two blobs are extant, and there would be room for one more symmetrically placed. In Phase I there are complete examples with usually three, in one case four, blobs.

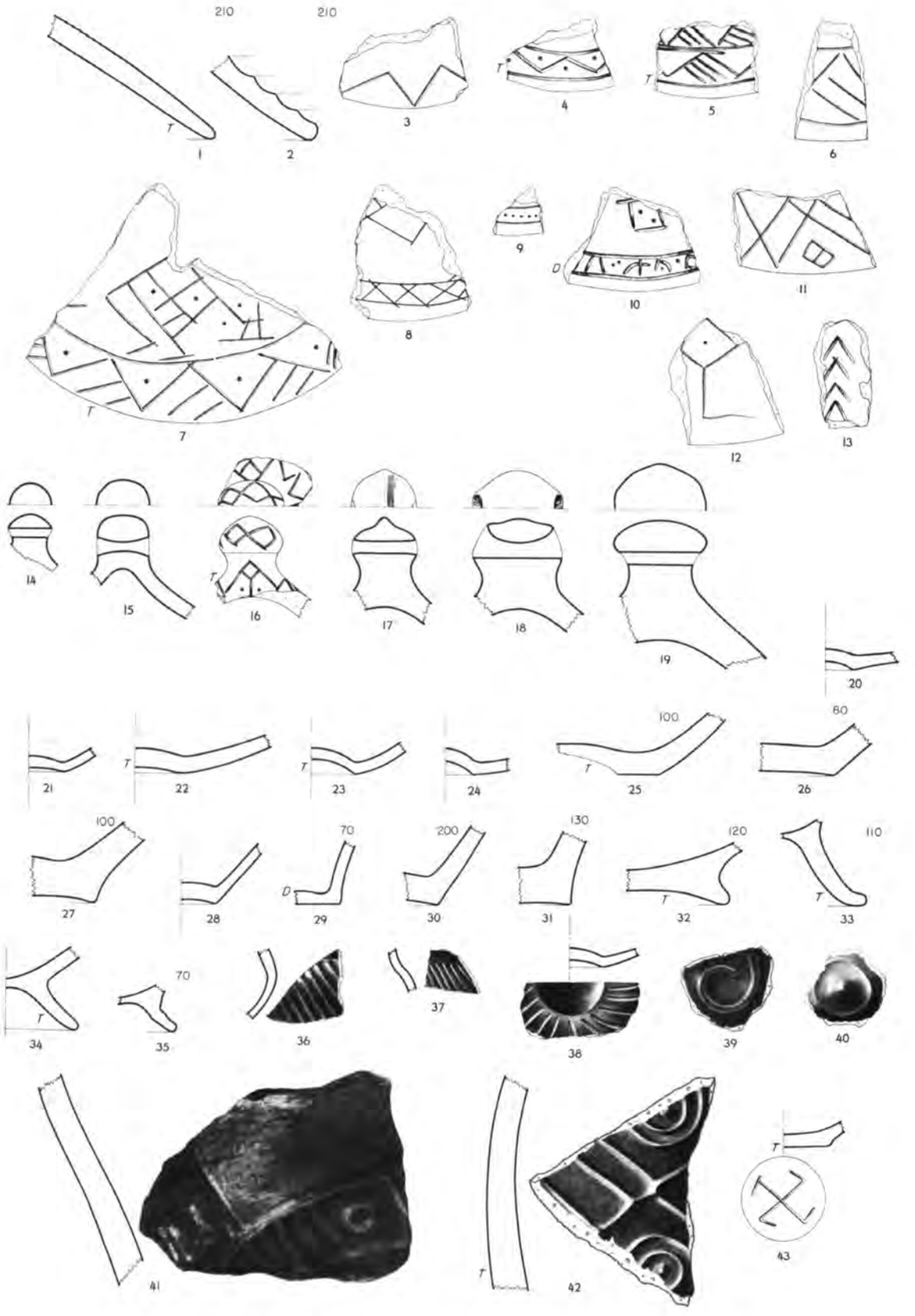


FIG. 285.—PHASE H. RED-BLACK BURNISHED WARE. SCALE, 1:3

soft (see p. 361). Incised decoration, often white-filled, is restricted almost entirely to lids in Phase H (Pl. 37:1, 4–6) and appears on some vessels of Phase I. The intentional red-and-black effect occurs on pots with either plain or plastically decorated surfaces.

The plastic decoration includes plain bands (Figs. 281:5, 23, 36, 283:3–5, 284:6, 8 and Pl. 35:1, 15) but is most characteristically a combination of plain bands and zigzags (Figs. 281:6, 12, 35, 282:8, 284:7, 14 and Pl. 33:5). On krater-like vessels and taller jars most usually the decoration consists of a zone of plain bands about the rim, a zigzag zone on the shoulder, and fluting from the zigzag zone to the base (Figs. 281:38 and 283:11, Pl. 36:13; see also Fig. 285:38, Pl. 37:9). Since the flutes are closely and evenly spaced from bottom to top on the bulging surface of the pot, some of them are thrown completely off the vertical, as is best illustrated by two early Phase I examples (Fig. 306:1, 3 and Pl. 34:3, 2). There are cases of zigzags (Figs. 281:11 and 282:2, Pl. 33:1) and of zigzags and fluting (Fig. 281:37) without rim bands. There are oblique flutes alone (Fig. 285:36–37, Pls. 35:8 and 36:10), but these are less characteristic than is the band-zigzag-flute combination. Plate 35:8 especially shows rather broad, shallow, and carefully worked flutes.

Examples of either isolated motifs or apparently more complicated allover plastic patterns also occur. In this connection the plain blobs might be recalled (see p. 366), one of which is surrounded by four finger impressions (Fig. 281:29). Blobs are also inclosed in circles (Figs. 285:40 and 282:13, Pl. 37:11) and flanked apparently by opposing crescents (Fig. 281:30, Pl. 35:11). Inverted V's suspended from lips (Fig. 282:13, Pl. 37:11) recall the flared edges of the little vestigial loop handles (cf. Fig. 282:7), and there are odd isolated sherds with spirals (Fig. 285:39) which may be the terminations of the flared edges of loop handles (cf. Fig. 282:9). Body sherds of large jars (Fig. 285:41–42 and Pl. 36:12, 7) show bold plastic motifs which covered quite some area. There are a fair number of smaller sherds of similar type, but they need not represent as many pots.

A swastika on a bowl base (Fig. 285:43) is impressed in thin lines.

The pot lids are characteristically decorated with incised motifs, although plain surfaces (Figs. 282:10–11, 285:1) and plastic bands (Fig. 285:2) also occur. Many lids (Figs. 282:12 and 285:4–6, 9–11, 13, 16, Pls. 37:1 and 87:6) show traces of white filling in the incisions. The motifs are usually geometric, but there seems to be a bird (Fig. 285:7). A lid from the Second Mixed Range has a similar type of motif (Fig. 358:8).

Brittle Orange Ware

(1–6% of selected sherd bulk)[15]

This is a wheelmade product, samples of which look the same megascopically whether from Judaidah, Chatal Hüyük, Ta'yinat, or Dhahab. The clay is normally completely oxidized, though some dark cores occur. The paste ranges from more or less light orange-buff to orange-brown or smoked black but is normally a rather intense red-orange buff. The mineral inclusions consist of white crystals and varicolored pebbles in medium concentration and predominantly coarse. There is possibly some very fine-textured vegetable matter as well. The fabric has a dense, although slightly laminated, appearance; the fracture is irregular and rough. In relation to our other available 'Amuq wares, this pottery is very tough and brittle and except for the Metallic Ware (see below) comes closest to having a musical ring when struck. The surface color varies from a rather bright brick-orange (Pl. 86:6) to a smoked brown but

[15] In point of view of proportionate occurrence in the two main operations on Judaidah and Ta'yinat, the situation with relation to this ware was just the opposite from that for the wares carried over from Phase G (see p. 351, n. 4). The somewhat larger proportion of Brittle Orange Ware in Ta'yinat T 4 as against Judaidah JK 3 might likewise indicate that the Ta'yinat material represents a slightly later aspect of Phase H. However, the bulk is insufficient to make the theory binding.

is characteristically in the orange-brown tones. The texture of the surface, when well preserved, is relatively smooth (see Pl. 38:1–2, 5–6). All examples are evidently wet-smoothed, and slightly over half are burnished with more or less open vertical or radial strokes. Some are dull; others have a kind of sheen, but strokes of a burnishing tool are not visible. Abrasion is not common, because of the toughness of the fabric, but it is quite usual for the surface to show some spalling.

This reddish-brown ware has many visible inclusions in the paste, has a ring when struck, and has a surface hardness of 3.5 to 6. The vessels were fired at 900° to 1,000° C., as firing experiments have shown. This is the temperature range common for most of the buff wares (the green color being obtained at temperatures above 1,000° C.). The chemical and mineralogical differences between the buff and the red clays account for the greater degree of maturity of the latter at the temperatures indicated. The paste from which the Brittle Orange Ware was made is unique in the ʿAmuq series and is of the *shale* type which contains subrounded pellets of shale and much fine angular quartz. It is possible that the shale was added to the red clay as tempering material. Sherds of this fabric occur at Judaidah, Taʿyinat, and Chatal Hüyük. The clay is from a mountain deposit near shale outcrops, and it would probably be possible to trace its source through a detailed reconnaissance of the region.—MATSON.

The profiles include bowls with inturned lip (Fig. 286:1–2) and higher bowls with rather straight side and more or less marked lip bead (Figs. 286:3–4 and 287:2, Pl. 38:2). There is one bowl whose profile approaches the *cyma recta* curve (Fig. 287:1, Pl. 38:1). Hole-mouth vessels with a lip bead are present (Fig. 286:5). At least two types of jars seem to be characteristic (in Phase I as well as in Phase H), one with tall flared collar (Fig. 286:6; cf. Fig. 311:1) and the other evidently a large krater-like vessel (Fig. 286:7).

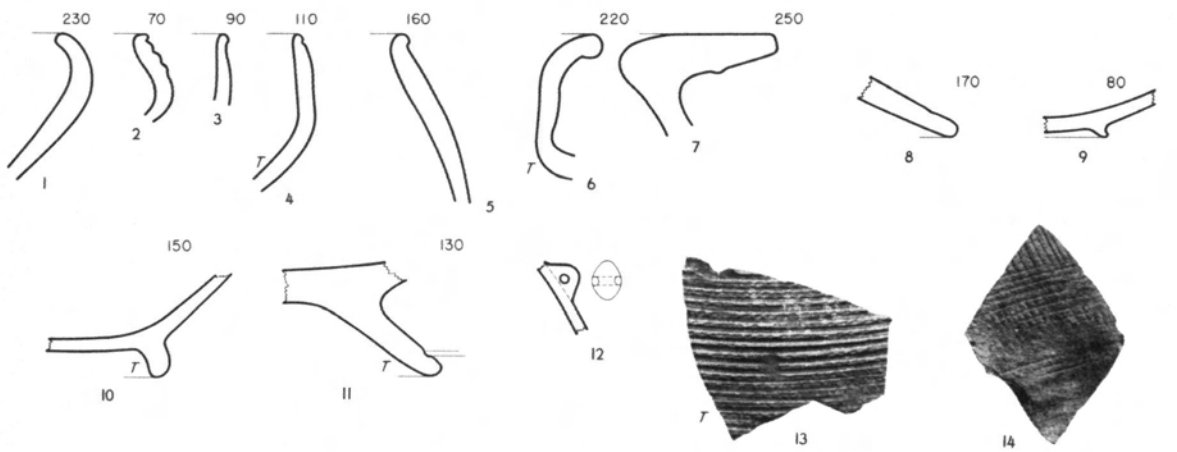


FIG. 286.—PHASE H. BRITTLE ORANGE WARE. SCALE, 1:3

The bases, usually crisply profiled, include low rings (Figs. 286:9, 287:2), rather high rings (Fig. 286:10), and pedestals (Fig. 286:11). The several examples of the last all have a lip bead. One sherd (Fig. 286:8) might refer to either a low flared pedestal base or a pot lid of the Red-Black Burnished Ware type (cf. Fig. 282:10–11). There is one flattened base (Fig. 287:1, Pl. 38:1), and no concave bases appeared. The only secondary feature is a horizontally pierced blob (Fig. 286:12).

As regards decoration, incised motifs are found in Phase I (see p. 406) but not in the Phase H sortings. Phase H does yield one example of a rather boldly corrugated surface (Fig. 286:13, Pl. 38:9) and several examples (probably all from the same pot) of comb-impressed decoration (Fig. 286:14, Pl. 38:11). At least one bowl sherd (Fig. 286:2) has plastic rim bands.

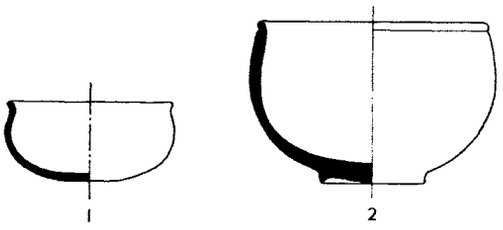


FIG. 287.—PHASE H. BRITTLE ORANGE WARE. SCALE, 1:5

It is not clear whether certain features which the Brittle Orange Ware and the Red-Black Burnished Ware have in common[16] are due to a crossbreeding between these two products before they reached the ᶜAmuq or after.

METALLIC WARE

(0–1% of selected sherd bulk)

These sherds were first taken to belong with the Brittle Orange Ware; they are of a tough brittle fabric and have a fine musical ring. However, it is now quite certain that they are not Brittle Orange Ware in the normal ᶜAmuq sense. Unfortunately they are very rare, and the only example from Taᶜyinat is questionable.

The inner surfaces show the dents of finger-working to such an extent that the use of a wheel is uncertain. The one available base is a flat string-cut affair, which does not necessarily indicate a wheel. Only the surfaces are oxidized (either both surfaces or simply the outer surface). The oxidized color is orange-buff to orange-brown, and the remainder of the core is a rather vitrified-appearing blue-gray. Coarse white and some varicolored mineral inclusions are present in medium concentration; there may be a few chaff pits. The fabric is dense but appears somewhat laminated on oblique breaks; the fracture is generally rather straight. The untreated surface color is orange-brown to dark orange-brown, and there is sometimes a self-slip. Even the outer surfaces are somewhat uneven as a result of finger-working. The characteristic surface treatment is open vertical burnish (see Pl. 32:8); the clay as affected by the burnish strokes has a tendency to fire out as dark brown or black. There is some abrasion, also a fair amount of spalling over the white mineral inclusions.

Thin sections of four "Syrian bottle" sherds were studied. They are high-fired pieces with slipped and burnished exterior. The paste contains many visible calcite inclusions up to 2 mm. in diameter. Three of the sherds have light gray cores, while the other is oxidized throughout. Those with gray cores were probably fired under reducing conditions. The thin sections show that the clay was high-fired and contained abundant calcite grains that had decomposed, accounting for the spalling noted by Braidwood. The calcite is frequently in the form of crushed shell fragments, which are absent or rare in the other ᶜAmuq sherds. The slip is 0.03–0.05 mm. thick and not very well preserved. These sherds are quite crude in appearance, compared with the other wares which were being made at the same time, and probably represent imports.—MATSON.

[16] E.g. burnish, bowls with inturned lip (cf. Fig. 281:1–2 and 6 with Fig. 286:1), plastic rim bands (cf. Fig. 281:5 with Fig. 286:2), *cyma-recta* profiles (cf. Fig. 282:7 with Fig. 287:1), and pedestal bases (cf. Fig. 285:33–35 with Fig. 286:11). The characteristic tall flared collars of the Brittle Orange Ware (Fig. 286:6) may be represented less crisply in the Red-Black Burnished Ware (cf. Fig. 284:2–4).

Most of the sherds suggest the "Syrian bottle" profile and may pertain to only two or three vessels. The restoration shown in Figure 288 is based on three sherds from Judaidah JK 3:11. The profile is well known outside the ʿAmuq and is represented by various sherds from Phase G.[17]

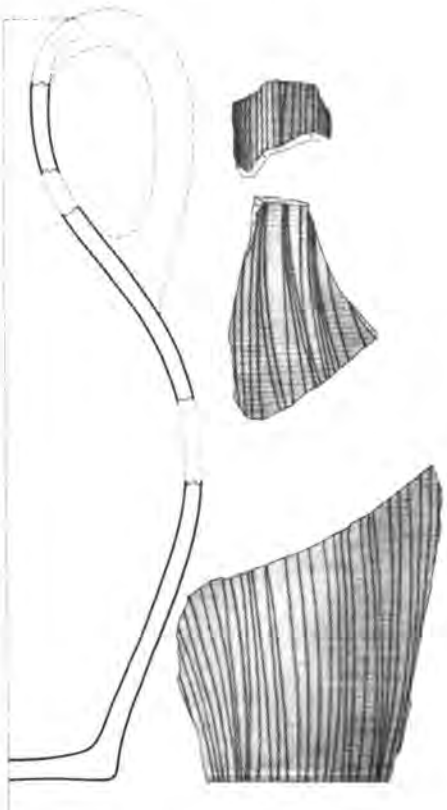


FIG. 288.—PHASE H. METALLIC WARE "SYRIAN BOTTLE" PROFILE RECONSTRUCTED FROM THREE SHERDS FOUND IN JUDAIDAH JK 3:11. SCALE, 1:3.

BAKED-CLAY OBJECTS

All of the objects presented in this section are from Judaidah and Taʿyinat. Only eight of the usual types of small objects are available from Phase H context.[18] There are, however, a fair number (over 50) of fragments of objects which we call "andirons." Two potsherd disks are from Judaidah TT 20 XIV, which refers to both Phase G and Phase H (see p. 10).

The "andirons" are of the same clay as the Red-Black Burnished Ware but are less carefully burnished than the pottery, if at all. Their surface coloration tends to be smoked and mottled, from gray to orange-buff; few have the full red-orange or the jet black which was often achieved in the pottery. Like the pottery, such objects continue on into Phase I. A molded spindle whorl and two bovine figurines also are made of the Red-Black Burnished Ware clay and show rather careless attempts at burnishing. The rest of the objects are of Plain Simple Ware clay.

[17] In Plain Simple Ware (p. 270) and with a vertically streaked effect in Simple Ware with Orange-Brown Slip and Burnish (p. 275 and Fig. 217:3–5). Some of the Phase G unclassified sherds probably refer to this profile (e.g. Fig. 233:9), but the only possible Phase G example of Metallic Ware (Fig. 233:11) does not refer to the "Syrian bottle" profile. However, since specimens of Metallic Ware are so limited in number that the range of variation of the clay is unknown, there may actually be examples of the ware among the Phase G unclassified sherds (p. 293).

[18] Not including two fragmentary animal figurines (x2504, x2658) which are accounted for only in the field register.

There are three spindle whorls. Two of these are pierced potsherd disks (x1608, x2903) from TT 20 XIV and are not significantly different from those of Phase G. The third is a molded whorl of rather flat wheel-like profile (Fig. 289:1).

Two crude and fragmentary cylindrical beads (x777, x2500) and one long barrel bead (Pl. 49:25) were found.

A finger-molded figurine represents a quadruped with long beaked face (Fig. 289:3, Pl. 51:7). Two other figurines, though small and rather casually molded, are recognizable as bovines because of the horns (Fig. 289:2, 4 and Pl. 51:9).

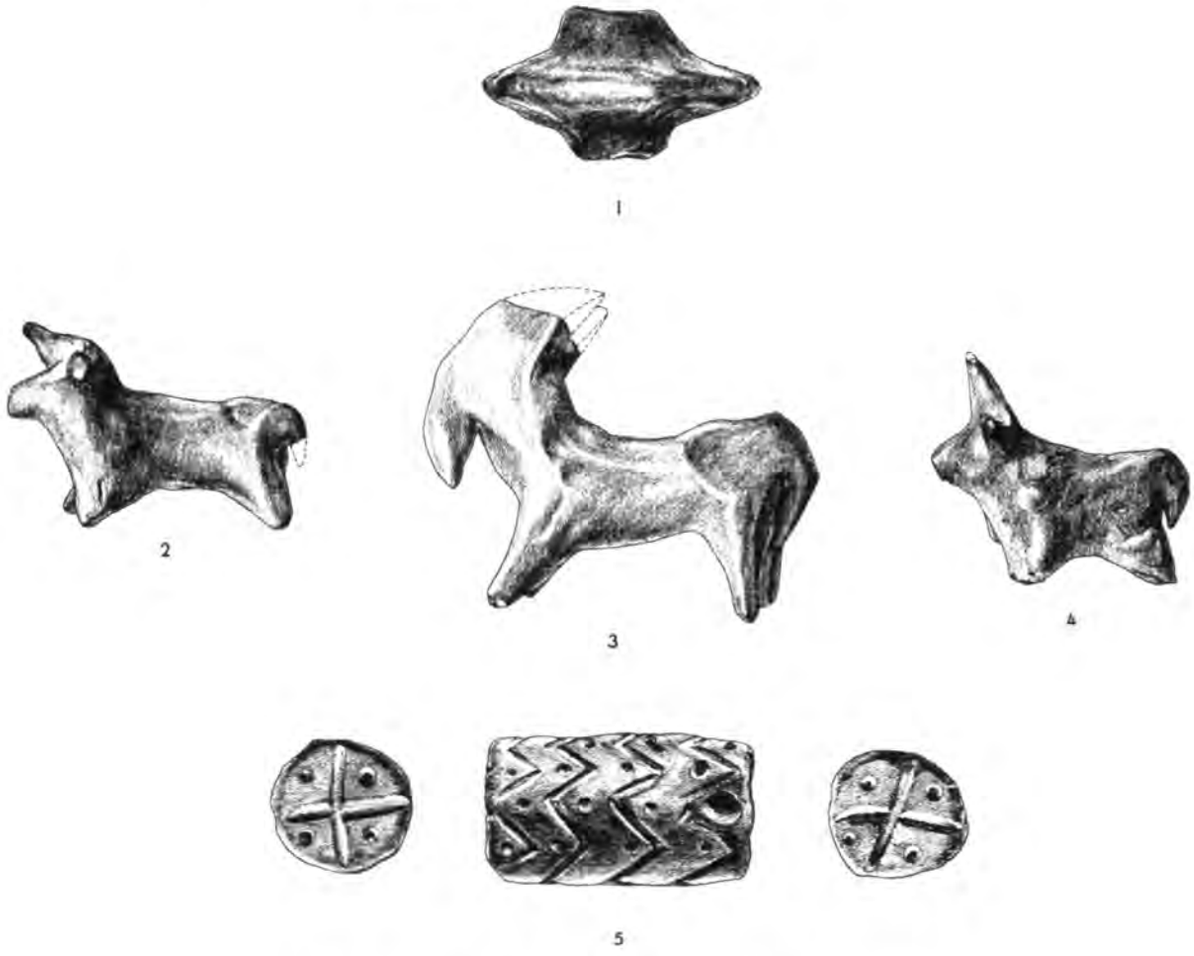


FIG. 289.—PHASE H. BAKED-CLAY OBJECTS. ACTUAL SIZE

There is a cylinder with transverse piercing and impressed decoration (Fig. 289:5, Pl. 49:16). The top and bottom each bear a simple cross with a dot in each quadrant. The cylindrical face carries four zigzag bands in phase, with a dot accenting each angle. It will, of course, remain controversial whether such objects are actually cylinder seals until a sealing is found along with the clay cylinder to which it corresponds. From the point of view of general proportions, size, and motif the suggestion is reasonable.

We did not recover a completely intact "andiron," though one (Fig. 290:5) is only slightly damaged on either front tip. There are, however, some hundreds of fragments from Phases H–I and the Second Mixed Range (Figs. 290, 291 *B*), and there is no question as to the original appearance of these objects. An idealized restoration based on the most complete fragments

is included in Figure 290. The plan was parabolic. On the inner wall there were usually three blobs of clay (see restoration). On the outer wall at the center back there was sometimes a pair of finger holes (Fig. 290:5), sometimes a piercing at right angles to the main axis (Fig. 290:5), or more rarely a loop handle (Fig. 290:1). Usually there was impressed or plastic decoration. On either front face and on the raised portion of the back there was sometimes a representation of a face, with plastic nose and impressions for eyes and mouth. The whole of either front face, below the "face," may carry impressed decoration, sometimes white-filled (Fig. 290:11). Such decoration was also possible below and above the "face" on the center back (Figs. 290:2, 291 *B* 1). On the basis of the fragments available the average dimensions must have been about as follows:

Total breadth at front, *ca.* 150 mm.
Height of each front face, *ca.* 110 mm.
Depth along axis of symmetry between front faces to outer surface at center back, *ca.* 105 mm.
Height of center back, *ca.* 100 mm.
Thickness of wall near base, *ca.* 35 mm.

There seems, on the other hand, to have been considerable variation in size, for some fragments indicate a total breadth at the front of over 200 mm., some of less than 100 mm. Figure 290:5 is somewhat under the approximate average size, Figure 290:1 probably slightly over.

Because of the relatively minute size which some of the fragments indicate and even because of the rather small area within and between the front faces of the approximately average example, the suggested use as andirons is not very convincing. Moreover, the usual surface coloration does not indicate clearly whether or not repeated fires were built inside after the original baking. Such an object could have served as a reasonably satisfactory pot-stand, with the tips of the two front faces and the tip at the center back (generally slightly below tips of front faces) giving three-point support to a round-bottomed pot such as that shown on Figure 280. Such use would be possible whether or not fires were built within the object while a pot stood on it. The pot-stand suggestion suffers from the fact that some of the fragments indicate relatively small products, and small round-based pots do not seem characteristic of the phase. The strongest argument in favor of use as andirons is that similar arrangements are still used as fireplaces in the ʿAmuq. We were able to photograph an example in the village of Taʿyinat (Fig. 291 *A*). It was merely built up of mud and backed by a low mud windbreak. It was not portable.[19]

METAL OBJECTS

The metal objects from Phase H are copper-based save for one small gold bead (p. 379). Forty-two metal objects were registered, but eleven were either discarded in the field or are of no use save for analysis. The pieces discarded were all fragments of pins or "nails." The condition of the objects varies; many are rather badly oxidized, but fortunately some of the fancier pins are quite well preserved.

Ten reamers appeared (Fig. 292:1–4). In general they are rather badly oxidized, but they seem to show no significant differences from earlier tools of this class.

A bit fragment of a normal-sized chisel (Fig. 292:5) must refer to a tool of a type found in Phase F (see p. 245 and Fig. 185:6).

A cache of four objects appeared on floor 11 of Judaidah JK 3. An incomplete ax (Fig. 293:1,

[19] Miss Anne Fuller informed us that portable baked-clay andirons similar in form to our objects are still used in villages in Lebanon.

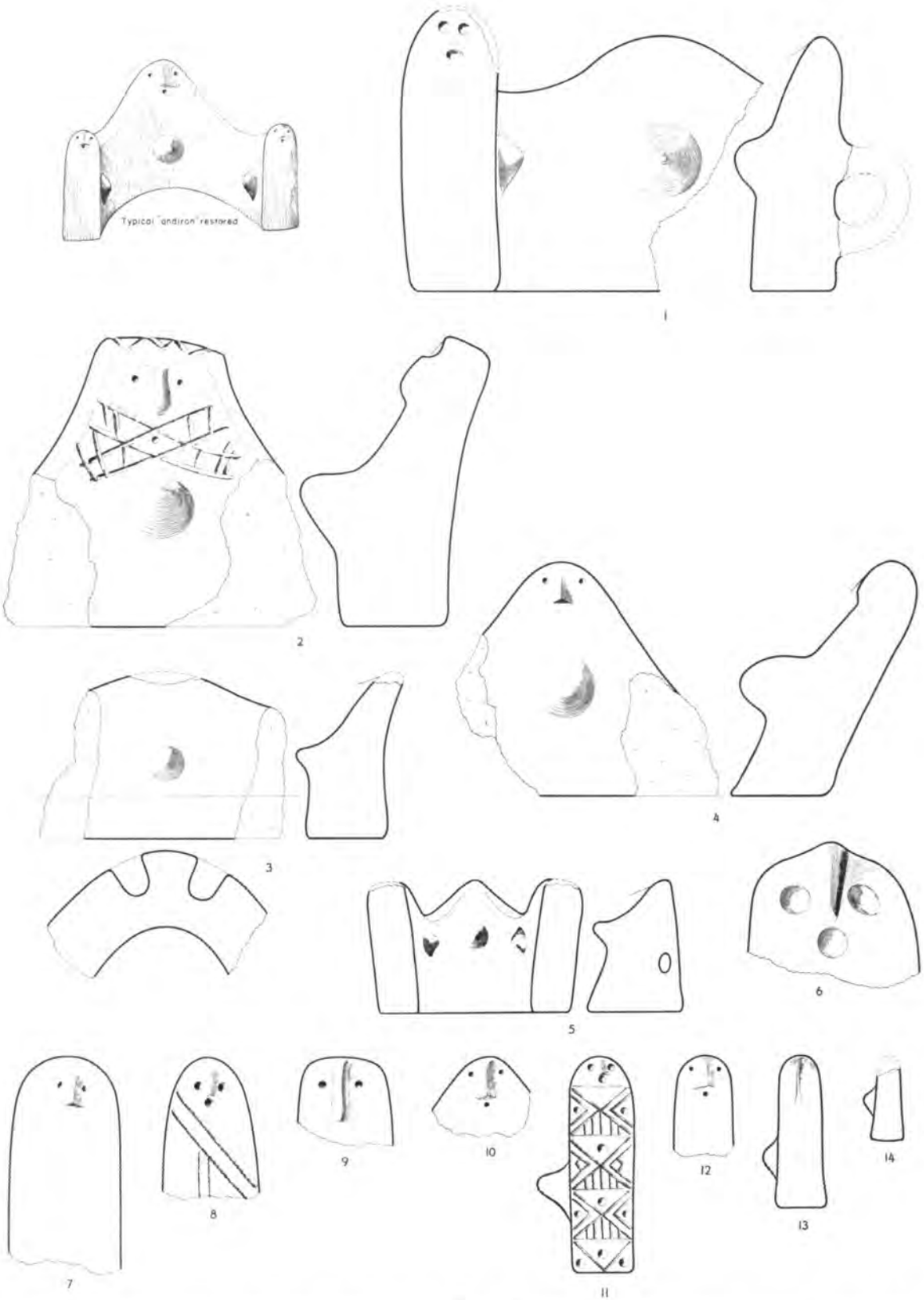
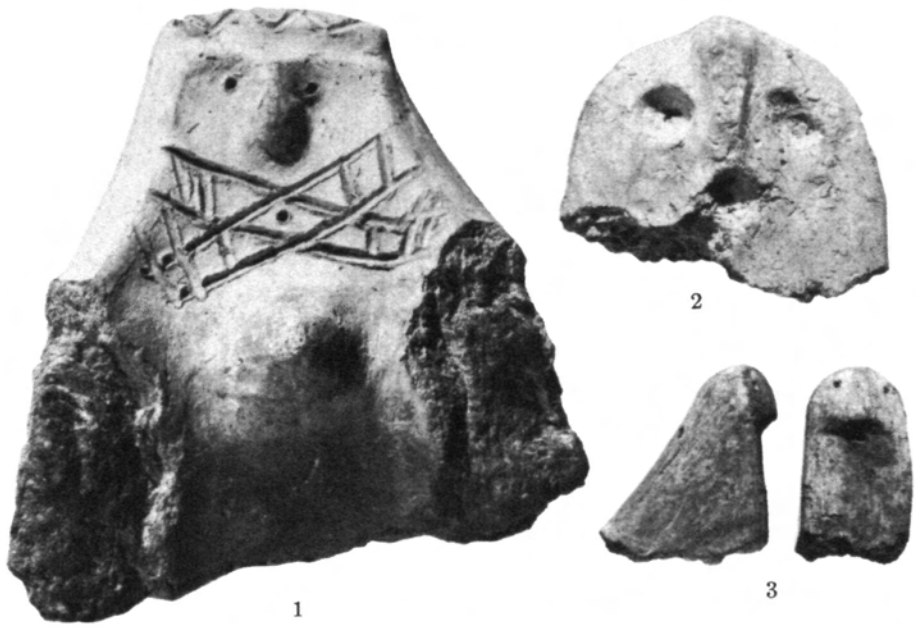


FIG. 290.—"ANDIRONS" OF RED-BLACK BURNISHED WARE. RESTORATION AND FRAGMENTS FROM PHASE H (*1–6, 11*), PHASE I (*9, 10, 12*), AND THE SECOND MIXED RANGE (*7, 8, 13, 14*). SCALE, 1:3. (SEE FIG. 291*B* FOR PHOTOGRAPHS OF NOS. *2, 6,* AND *12*).

A



B

Fig. 291. *A*. "Andiron" Type Fireplace in Taʿyinat Village. *B*. "Andiron" Fragments from Phases H–I (See Fig. 290: *2*, *6*, *12* for Drawings).

Pl. 55:4) was evidently of the type with the tang set into a slot in the shaft.[20] There are well developed flanges which would serve both to prevent the ax from being driven through the slot in the shaft and as anchors for binding it to the shaft. A heavy round bar, with broken surfaces on either end, was bent almost in two (Fig. 293:2, Pl. 55:2); no suggestion as to its use is made. A heavy lance head (Fig. 293:3, Pl. 55:1) has broad barbed wings, a well marked central ridge, and a short tang. The tang is drilled near the end, evidently so that the piece could be secured in a hollow-ended shaft by a transverse dowel rivet. The final object in the cache is a spear with oblong blade and long tang (Fig. 293:4, Pl. 55:3). The blade has a rather rounded point; it has a low central ridge but is relatively thin and was bent double when it was found. It is now quite fragmentary, but there seems little chance that it was barbed, though it may once have been more pointed. The tang was bent as shown in the illustrations when found. This is an example of the so-called "poker-butted" spear, but with atypically broad blade. The narrow tang ends of such spears are often bent over. An explanation might be that the piece was mounted in a shaft which was drilled hollow to receive the thick part of the tang and slotted at one side. The narrow end could then be worked out of the slot when the tang was inserted in the shaft and bent sharply back over the outside of the shaft, to prevent the spearhead from pulling out of the shaft when the weapon was being recovered after a strike.

Several pin fragments without heads were discarded in the field or saved merely for analysis. One pin (Fig. 292:6) has a plain head, if the head end is intact, and two pins have bent heads (Fig. 292:7–8). Three fragmentary flat-headed pins or "nails" appeared (Fig. 292:12). Two domed-headed pins with double beading below the dome and a sort of shouldered point come from Judaidah JK 3:11 (Fig. 292:13, Pl. 53:13). The shoulder near the point may have been a device to prevent the pin from pulling out of place too easily. Two knot-headed pins appeared, each more elaborate than the Phase G example (Fig. 239:9) of this type. In one (Fig. 292:16, Pl. 53:6), from the debris above JK 3:12, the thinned wire of the head end was turned into a double loop and then rolled back around the shank. The other (Fig. 292:14, Pl. 53:8), from JK 3:8, is more elaborate. The thinned wire of the head end was formed into a single loop and then coiled tightly back about the shaft to end on the shoulder of a wide flange. This flange is part of the shaft, which must have been produced by casting. An incomplete pin from JK 3:11 (Fig. 292:15) is in general rather badly oxidized. It seems to be of similar type, but in its present state it is impossible to tell whether the shaft above the flange carries oxidized remains of a coil of wire (as in Fig. 292:14) or is merely grooved in imitation of the coil.

There is a small tab (Fig. 292:10) for which no use is suggested. One end of a simple loop of wire is possibly broken (Fig. 292:11), and hence it is uncertain whether the piece was originally an earring of the type shown on Figure 371:2. Metal adheres to two shell beads. While oxidized and fragmentary on one (Fig. 292:9, Pl. 52:15), the metal suggests two beads: a simple ribbon-like coil, which lies over the hole in the shell bead, and a fragment of foil which is rolled so as to form a hole for stringing.[21] The shell bead, the coil, and the rolled foil were

[20] This ax and the other objects in the cache are mentioned in R. Maxwell-Hyslop, "Bronze lugged axe- or adze blades from Asia," *Iraq* XV (1953) 69–87. Mrs. Maxwell-Hyslop was not able to read my handscript: on p. 73 of her article the findspot should read "level 11" (not "Level II"), and level 11 is early in Phase H (not "rather early in Phase 14").

Full descriptions and drawings of the objects in the cache were not made in the field, and, since they were allotted to the Antioch Museum, the drawings in our Fig. 293 had to be made from the field photographs. Hence there was no way to measure the sections, which may be assumed to be essentially correct, however. There is no analysis of the metal unfortunately.

[21] The rolled fragment suggests an incipient form of the later *pendentif* or disk pendant (cf. e.g. *Syria* XIX [1938] 320, Fig. 48:1–7).

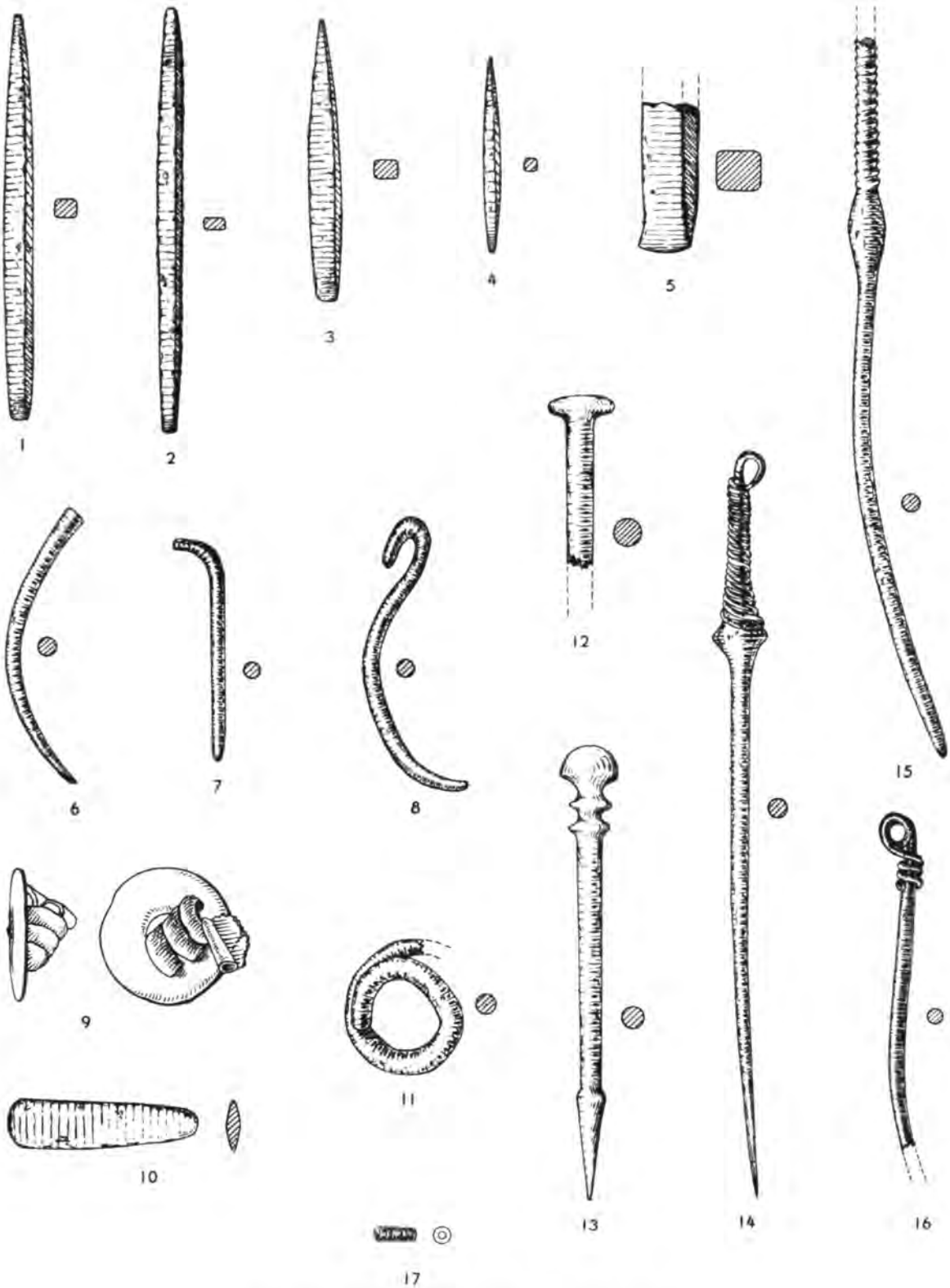


Fig. 292.—Phase H. Metal Objects. Actual Size

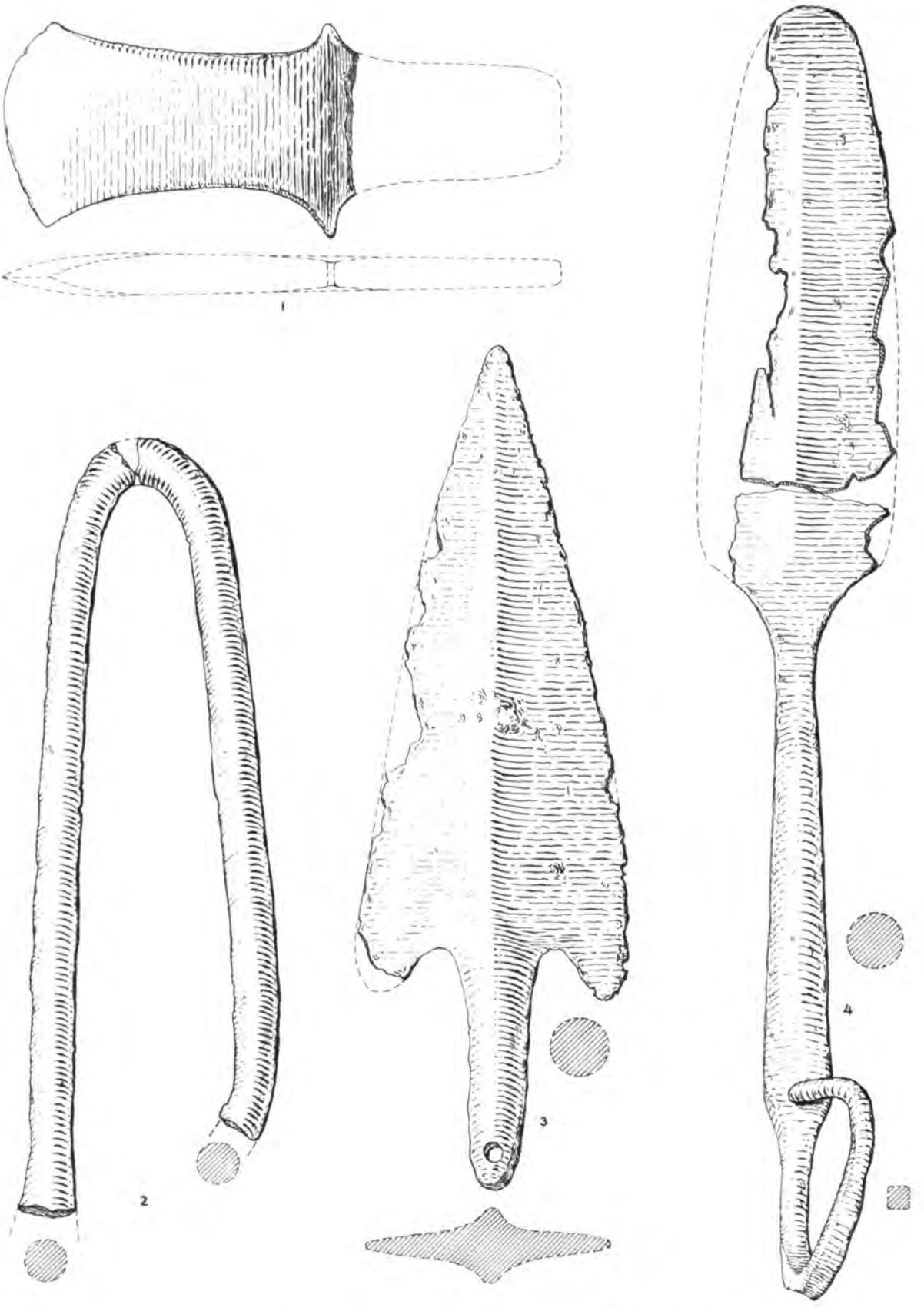


FIG. 293.—PHASE H. CACHE OF METAL OBJECTS (SEE Pl. 55). SCALE, 3:4

evidently adjacent on a string. The second shell bead (x2193) is exactly like the first, but smaller; the metal adhering to it is very fragmentary and oxidized and does not suggest its original form.

The gold bead was part of a "string" of 237 beads (see p. 395 and Pl. 70:1). It is simply a spiral of rather flattened wire (Fig. 292:17).

Spectrographic analyses showed concentrations of elements as follows:

REAMERS

x2194 Major: copper; strong: silver; minor: arsenic, calcium, nickel, phosphorus, silicon; other traces weak

x2276 Major: copper; minor: silicon, tin; other traces weak (Fig. 292:1)

x2392 Major: copper; strong: iron, silicon; minor: arsenic, nickel, tin; other traces weak

x2477 Major: copper; strong: arsenic, tin; minor: iron, nickel; other traces weak

x2485*a* Major: copper, silicon; strong: aluminum, iron, tin; minor: boron, calcium, magnesium, sodium; other traces weak (Fig. 292:3)

x2485*b* Major: copper, silicon; minor: calcium, phosphorus; other traces weak

x2505 Major: copper; minor: nickel, silicon; other traces weak

x2540 Major: copper; strong: tin; minor: arsenic, nickel, silicon; other traces weak (Fig. 292:2)

x3590*b* Major: copper; minor: arsenic, nickel, silicon; other traces weak (Fig. 292:4)

CHISEL BIT

x2691 Major: copper; minor: arsenic, iron, sodium, tin; other traces weak (Fig. 292:5)

PINS

x2376 Major: copper; minor: arsenic; other traces weak (Fig. 292:14)

x2470 Major: copper; minor: arsenic, phosphorus, tin; other traces weak (Fig. 292:12)

x2493*a* Major: copper; strong: lead, tin; minor: arsenic, nickel, silicon; other traces weak (Fig. 292:13)

x2493*b* Major: copper, silver; strong: lead, silicon, tin; minor: arsenic, nickel, phosphorus; other traces weak

x2506 Major: copper; strong: silicon; other traces weak

x2526 Major: copper; strong: arsenic; minor: phosphorus; other traces weak (Fig. 292:15)

x2620 Major: copper; strong: silicon; minor: nickel; other traces weak (Fig. 292:6)

x2659 Major: copper; strong: silicon; other traces weak (Fig. 292:7)

x2710 *Surface.* Major: copper; strong: nickel; minor: sodium; other traces weak. *Core.* Major: copper; other traces weak (Fig. 292:16)

x2977 Major: copper; minor: arsenic, iron, nickel, silicon, tin; other traces weak (Fig. 292:8)

MISCELLANEOUS OBJECTS

x2021 Major: copper, silicon; strong: arsenic; minor: aluminum, boron, calcium; other traces weak (Fig. 292:11)

x2082 Major: copper; minor: silicon, tin; other traces weak (Fig. 292:10)

x2192 Major: copper; strong: silicon; minor: arsenic, tin; other traces weak (Fig. 292:9)

x2193 Major: copper, silicon; minor: tin; other traces weak

FLAKED STONE OBJECTS

The Phase H flints, with the exception of the few found at Ta'yinat, are treated by Mrs. Payne (pp. 533–37) as part of the Cananean industry, which begins in Phase F. Various items are mentioned here that concern the Phase H flints in particular. Table V (p. 539) shows that comparatively few flints were found in Phase H, and it is quite noticeable that flint is now being used for sickle blades and little else. That the art of good careful retouch, or perhaps the liking for it, is disappearing is evident in all the types of artifacts at hand, but especially

in the sickle blades. A few of these have neat careful retouch to form the denticulation, but the retouch on the majority is rougher and in many cases sloppy.

We are not entirely satisfied with the picture of the Phase H flint industry as given by the materials at our disposal and would welcome a check by future excavators at Phase H sites which are free of the possibility of contamination from earlier phases. Tell Ta'yinat was rather ideal in this respect, but unfortunately the Phase H exposure yielded only five flints (see below), four of which are sickle blades made from Cananean blades. A crude projectile point found at Ta'yinat in the Second Mixed Range may well be of Phase H manufacture (see p. 472 and Fig. 372:1). The bulk of the Phase H flints are from Judaidah, where the tool types are varied and do not show the barrenness of the Ta'yinat finds. A few examples are recognizably of earlier manufacture and are so specified in the descriptions. There are many small blades and blade sections which for the present we accept as part of the Phase H picture, but there is a question in our minds, raised by the meager Ta'yinat evidence, as to whether such small blades are actually still being produced in quantity in Phase H times or whether many may not be survivals (perhaps picked up in the area around Judaidah) from earlier times, particularly Phases A–B.

Projectile Points

Two arrowheads were found, one of obsidian (Fig. 294:2) and one of flint (Fig. 294:3). Both are somewhat crudely worked and in shape are quite unlike the occasional arrowheads found in other phases. At present there seems no reason to doubt that they were made during Phase H.

None of the larger projectile points are definitely of Phase H manufacture.[22] A tang fragment (described on p. 534) was certainly manufactured during Phase A or B; it was either extrusive in Phase H or, more likely, was found in the area surrounding Judaidah during Phase H times and preserved. Another fragment of a Phases A–B type projectile point was reworked on the bulbar face with rough retouch and reused as a fabricator (so listed in Table V). A projectile point which is not particularly elegant in shape but has extremely good retouch (Fig. 294:1) is similar to a specimen from Phase A or B in shape, amount and type of retouch, and awkwardly worked point. Such neat careful retouch has not been found otherwise in Phase H context (nor in Phase G or F). Despite the fact that only one similar example has been found for Phase A or B (and one fragment, or possibly two fragments, that may be from the same type), it seems most probable that this example was manufactured during Phase A or B rather than Phase H. From the number of projectile points found in Phases A–B it is certain that those early people were ardent hunters, and they must have left their points, especially broken specimens, scattered about over a fairly large area.

Sickle Blades

The only flints found in Phase H context on Ta'yinat are five sickle blades. Four of them are made on Cananean blade sections (Fig. 294:8). The fifth (Pl. 65:9), though trapezoidal in section, is short and slender (39 × 13 × 5 mm.) with teeth as large as those of Figure 294:6 and formed by similar flat deep retouch. It is interesting to find even this one example of a small sickle blade on Ta'yinat, for at that site Phase H was the earliest phase encountered, though presumably there was a Phase G occupation in levels which we did not reach (see p. 351, esp. n. 3), and hence there is small likelihood of contamination with materials of the earliest phases. It thus seems fairly certain that at least a few small sickle blades were being produced and used alongside the larger Cananean sickle blades. The Ta'yinat sickle blades are

[22] But note Fig. 372:1 (p. 472), a projectile point possibly of Phase H manufacture.

included in the counts given below along with those from Judaidah. Altogether, forty-five sickle blades were found in Phase H.

Thirty-three of the sickle blades are on Cananean blade sections (14 bulbar tips, 17 middle sections, 2 end sections). The widths vary from 19 to 39 mm. but average 27 mm. There is a great deal of variation in the lengths. The two longest examples measure 164 × 37 × 9 mm. (Fig. 294:8) and 154 × 32 × 10 mm. (Pl. 66:1); the latter has rough steep retouch rounding off both ends, but its profile suggests that it must have been a complete blade (perhaps 174 mm. long) before the retouch. Other complete blades would undoubtedly have been longer, and still others much shorter. Our shortest example measures 32 × 24 × 6 mm. The length of all thirty-three examples averages 64 mm.[23] The average thickness is 7 mm. A great many (22) were used along both edges. Twelve of the Cananean sickle blades have steep retouch at one end, and two of these are retouched at both ends. In about half of the twelve the retouch seems to have been used to reduce the great thickness at the bulbar end. The retouch is extremely rough, in some cases more a hacking-out of largish chips to achieve the desired results. A few of the Cananean sickle blades are denticulated by use only. A couple are denticulated by upper-face retouch, and two others by alternate retouch, that is, bulbar-face retouch along one edge and upper-face retouch along the other. The remainder are all denticulated by bulbar-face retouch. In six of these there is some additional upper-face retouch (as in Fig. 294:7) which seems for the most part to have been done later in an attempt to resharpen the edge. The denticulation is varied. In four examples the retouch is a neat nibbling, and the denticulation is quite fine and fairly regular. In ten examples the retouch is flat and spreading but controlled sufficiently to give fairly large teeth, irregular but closely spaced (see right edge of Fig. 294:6). In the remaining thirteen examples the retouch is flat and spreading but more haphazard. The resultant edge varies from a slightly irregular toothless edge (see right edge of Fig. 294:7) to an irregularly denticulated edge (as in Fig. 294:8) to a decidedly irregular jagged edge in a few examples.

The remaining twelve sickle blades are fairly small (largest 48 × 15 × 3 mm., smallest 23 × 14 × 5 mm., average 34 × 14 × 4 mm.) and mainly on middle sections. Only one has sheen on both edges. There is little additional retouch; the Ta'yinat example (Pl. 65:9) and a couple of others have steep fairly rough retouch at one end. A few were used without retouch on the working edge. One has upper-face retouch, and the remainder have bulbar-face retouch. The retouch is mainly nibbling, producing a very fine irregular denticulation. The only example with a bit coarser and more pronounced denticulation is that from Ta'yinat, which is denticulated by flat retouch on the bulbar face. Many examples look out of place in Phase H context and would seem more at home in Phases A–B, but it is probable that most of them, if not all, represent the Phase H flint industry.

Blades and Blade Sections

There are no large whole Cananean blades. The few rough blades are small and slender. Only nine of the blade sections are from broad Cananean blades. The remainder, with a few exceptions, are short and slender, similar to the sections used for the sickle blades mentioned just above.

Scraper

One rough scraper is made on a fragment of tabular flint. It is roughly trapezoidal in plan. The bulb of percussion is missing. One straight edge is steeply retouched (fairly rough), but the other edges are plain snapped surfaces.

[23] With 2 in the 100's, 1 in the 90's, 2 in the 80's, 6 in the 70's, 6 in the 60's, 6 in the 50's, 4 in the 40's, 6 in the 30's.

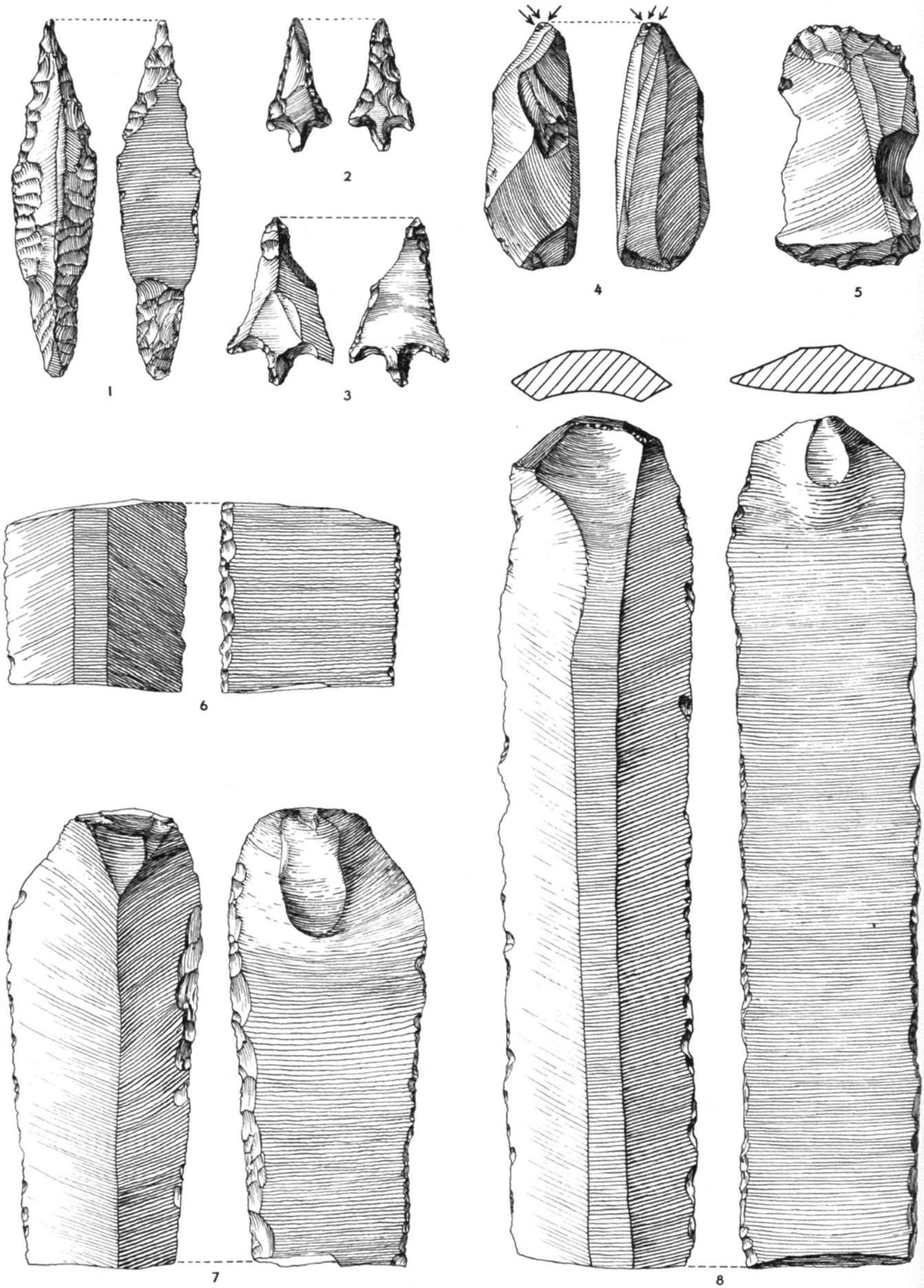


Fig. 294.—Phase H. Flint (*1*, *3*, *5–8*) and Obsidian (*2*, *4*) Tools. Actual Size

GROUND STONE OBJECTS[24]

Vessels

A fragment of a medium-sized straight-sided bowl of chlorite-rich greenstone (Fig. 295:1) has a thin rounded lip and smoothly ground surfaces. The outer surface tapers slightly inward and sets in relief a narrow (10 mm.) band at the outer rim. A complete vessel (x2487) which was discarded in the field is catalogued as a sandstone bowl of generally rectangular shape. The measurements are given as l. 104, w. 83, h. 42, depth 16, base t. 26 mm. The stone identification is only that of a layman but must indicate that the material was slightly porous and gritty and that the surfaces were not smoothly ground and polished as is usual with stone vessels. Unfortunately no photograph or drawing exists. The rectangular shape is unusual.[25]

Celts

There is one large tool, one medium-sized, and one small, all fragmentary. All are smoothly ground and polished.

The large tool (Fig. 295:2) has an axlike profile. The slightly convex working edge is fairly sharp but chipped by use. One face has clearly marked beveling parallel to the working edge, and the other face slopes gently to the working edge.

The medium-sized tool (x2709) was probably an adze. It has a very sharp straight working edge (l. 43 mm.). The transverse section is rectangular. The more complete face shows a sharply defined bevel parallel and close to the working edge. The opposing face was probably also beveled. The tool may have been broken in the making, for the working edge shows no real signs of use.

The third fragment (x2481) is the butt end (l. 16, gr. w. 12, t. 6 mm.) of a tiny celt, probably comparable in size and shape with Figure 249:4 (Phase G).

Whorl

The only whorl found in Phase H context (Pl. 69:7) is small and hemispherical (cf. Fig. 98:3).

Maceheads

There are two complete maceheads and a fragment. All three represent pearoidal shapes. One example (Fig. 295:4, Pl. 68:6) is carelessly made, for it is not perfectly round in transverse section and the perforation is slightly off center. The surface, however, is smoothly ground and polished. The other complete macehead (Fig. 295:5) is handsomely worked. An unusual feature is the slightly flattened base. The fragment (x2525) represents a well finished macehead, probably of an elongated form such as No. 4. The only measurement available is for the diameter (15 mm.) of the lower end of the perforation.

Unclassified Object

This fragment (Fig. 295:3), though of chalk, is fairly hard. Its preserved blunt end is slightly roughened (from use?) but the remaining surface is smooth. The perforation tapers, as is usual for hafted implements. The object seems too small for a macehead; it may possibly have been used as a hammer.

[24] Not including four discarded stone objects registered as follows: incomplete palette (x1767), small disk with only one end remaining (x2612), pestle? (x2611), and incomplete metate (x2556).

[25] Rectangular stone containers are probably found in Phase E (see p. 214), and a rectangular "rubbing basin" is noted for Phase J (see p. 456).

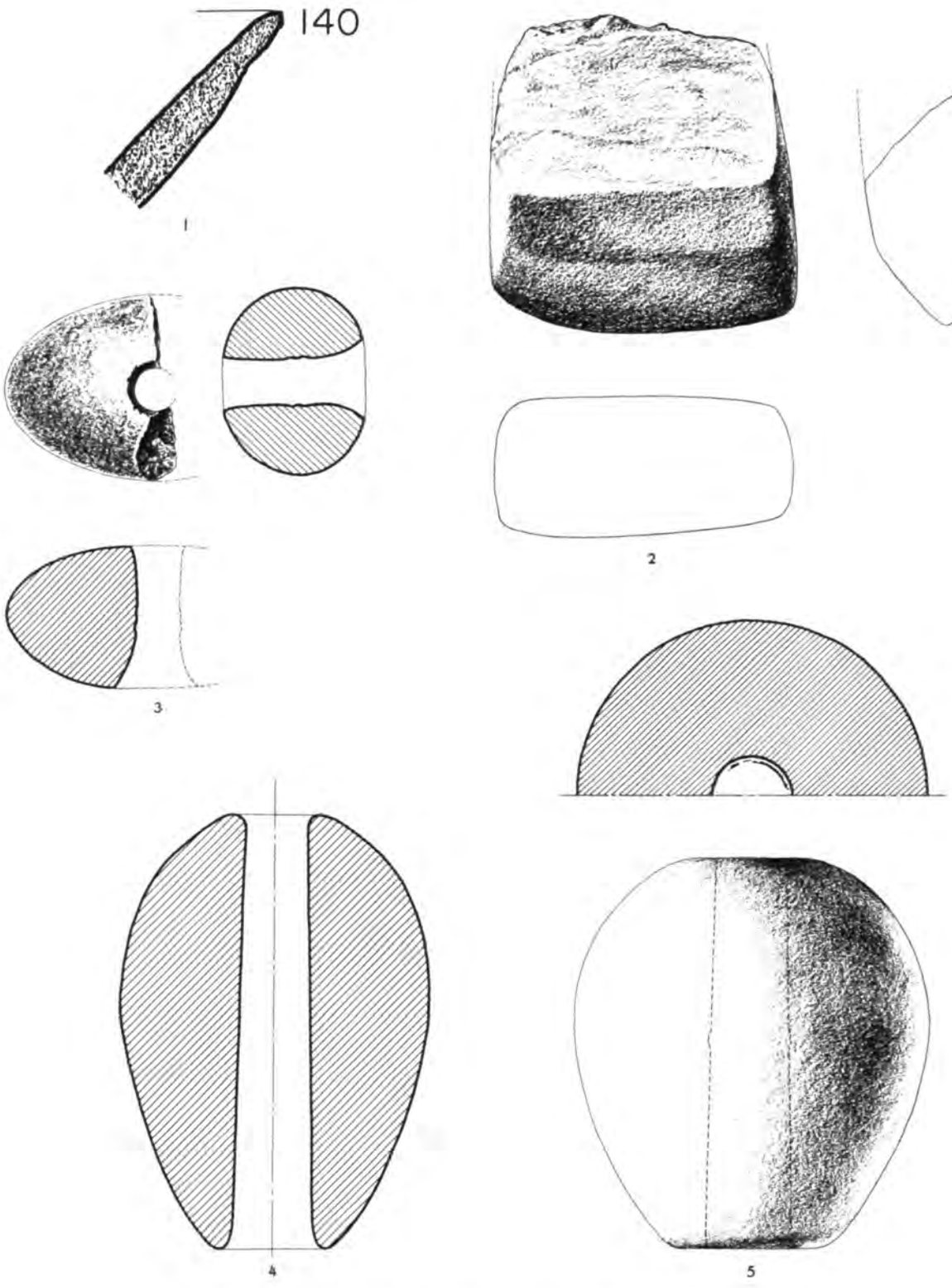


FIG. 295.—PHASE H. GROUND STONE OBJECTS. ACTUAL SIZE

Beads

Of the 246 stone beads,[26] all but twenty-four were part of a "string" (x2604) found on floor 11 of Judaidah JK 3 (see Pl. 70:1 and p. 395). A variety of stones is used, but carnelian and a pale green translucent stone (chrystolite) are most common. Short circular beads and longer barrel shapes predominate. Most of the beads are made with care.

The variety of short circular beads is illustrated by Figure 296:1–7. Two are elliptical in section; one (Fig. 296:1) is 6 mm. long, and the other (x2140) measures 13 mm. in diameter and 5 mm. in length. The findspot given for the latter is ambiguous and may refer to either Phase G or Phase H. The most common shape is that with flattened ends and slightly convex side (Fig. 296:2). Six small cliachite beads of this shape (average: d. 3.5, l. 2 mm.) have a small perforation and are similar to the kaolin and cliachite beads of Phases F–G (see p. 326). In the remainder the perforation is larger and has a funnel-like enlargement at each end (cf. Fig. 296:3, section). These include two of quartz (d. 6, l. 3 mm.), fifty-two of carnelian (largest: d. 10, l. 4 mm.; smallest: d. 4, l. 1 mm.; average: d. 5, l. 2 mm.), and ninety-nine of chrystolite with slight irregularities in shape (average: d. 4, l. 1.5 mm.). Another common shape is similar to the preceding but has a slightly accentuated midrib (Fig. 296:3). Twenty-one carnelian beads are of this shape (largest: d. 10, l. 5 mm.; smallest and most frequent: d. 5, l. 2 mm.), also an obsidian bead (d. 4, l. 3 mm.) and a small white cliachite bead (d. 3.5, l. 2 mm.). The last (x2712) differs from the others in that its perforation is very small and does not have the funnel-like enlargements at the ends. A serpentine bead with accentuated midrib (Fig. 296:4) does not have flattened ends and is more globular in shape. An oblate spheroid of carnelian has flattened ends and is faceted (Fig. 295:5). Two beads, one of limestone (Fig. 296:6) and one of opal (d. 11, l. 9 mm.) are simple oblate spheroids.

There are twenty short cylinders of carnelian with flattened ends (Fig. 296:7) and mostly with perforation as in Figure 296:3. The largest is 9 mm. in diameter and 6 mm. long, the smallest 4 and 2 mm., the average 6 and 3 mm. A bead of cliachite (T3821*a*) is similar in shape (d. 4, l. 3 mm.) but has a tiny perforation without enlargements at the ends. It was found with three fayence beads (see p. 394). There are six long cylinders, one of chalcedony (Fig. 296:8) and five of carnelian (average: d. 8, l. 15 mm.). The findspot given for the chalcedony bead is ambiguous and may refer to either Phase G or Phase H.

Barrel-shaped beads are fairly common. Seven are unusually short, with diameter and length about equal. One of these is probably of nephrite (x2660: d. 4, l. 5 mm.), one is of white opal (x2604: d. 8, l. 7 mm.), and five are of carnelian (x2604: average d. and l., 5 mm.). Thirteen longer barrels (Fig. 296:9) are of carnelian (average: d. 7, l. 10 mm.), and one such bead is of soft red rock (d. 7, l. 9 mm.).

Three long beads of carnelian (average: d. 6, l. 8 mm.) have an accentuated midrib (Fig. 296:10). A long bead of chlorite-rich greenstone has a slight collar at each end (Fig. 296:11). Two carnelian beads from the "string" are somewhat pear-shaped. One of these is illustrated (Fig. 296:12); the other is 7 mm. in diameter and 11 mm. long.

There are not many flattened beads. A well made opal specimen has convex edges (Fig. 296:14). Another, of amorphous gray stone, has angular sides (Fig. 296:13). A fragmentary bead of pale yellow chalcedony is well made and highly polished (Fig. 296:16).[27] Finally, there is a long flat bead of fine-grained brown stone whose convex sides taper and then flare out slightly at the ends (Fig. 296:15).

[26] There are also beads of clay (p. 372), metal (pp. 376, 379), fayence and shell (pp. 394 f.).

[27] A break in the line of perforation indicates that the complete bead was twice as long as the fragment. The reconstruction shows a symmetrical shape, which seems most logical in view of the other bead forms at hand (e.g. Fig. 296:13).

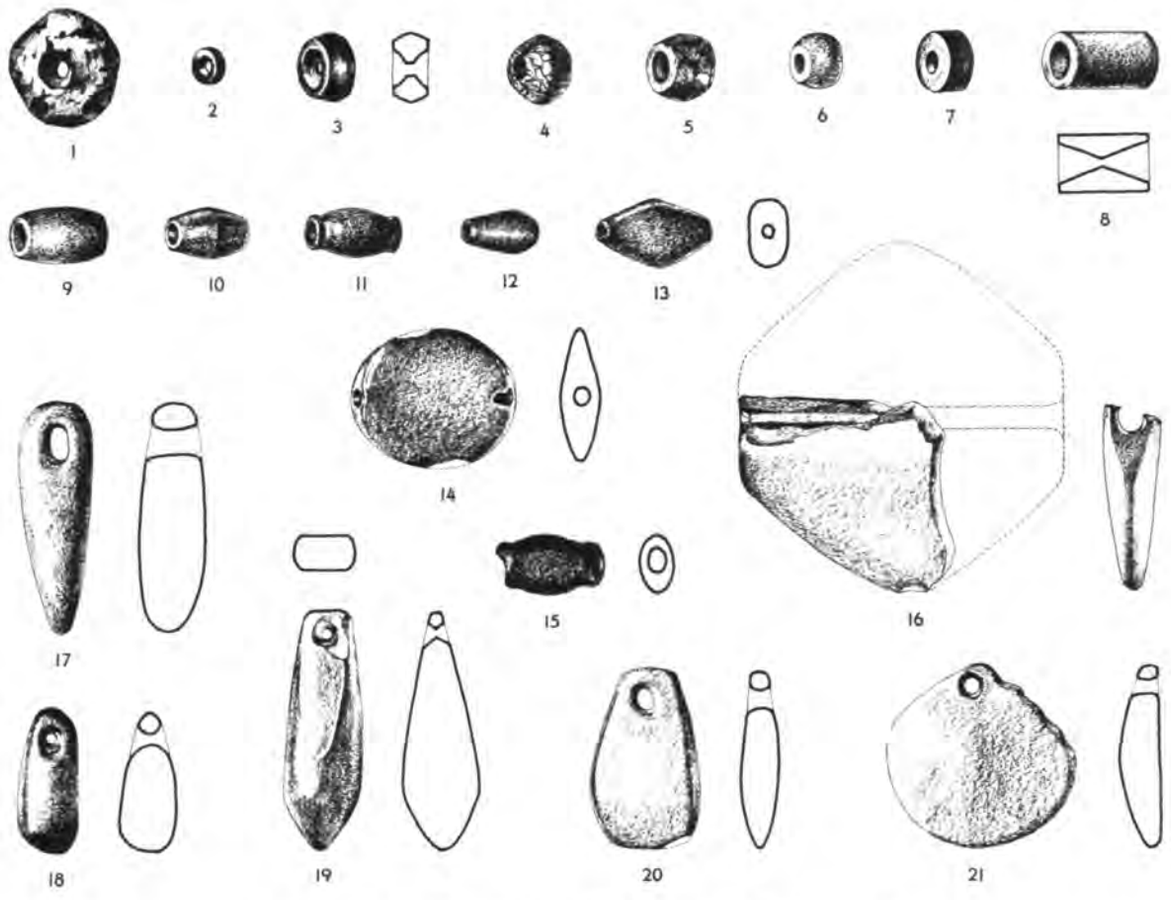


FIG. 296.—PHASE H. STONE BEADS AND PENDANTS. ACTUAL SIZE

PENDANTS

The six pendants are fairly simple, and all are carefully shaped and finished.

An example with squared oval section tapers from its rounded head to a blunt point and has an unusually large perforation (Fig. 296:17). A plain drop-shaped pendant with oval section has the head flattened to accommodate the perforation (Fig. 296:18). More exact workmanship was involved in the making of another drop-shaped pendant (Fig. 296:19, Pl. 71:6). The transverse section is round at the bottom and rectangular at the head, which is thinned for perforation. Identical flattened areas on either face are sharply defined and merge imperceptibly into the adjacent surface. Both areas are smoothly polished in contrast to the rest of the pendant, which is less perfectly polished.

A small ax-shaped pendant (Fig. 296:20) has a fairly sharp lower edge, which may have seen actual use, for part of it is broken. A small portion of the edge of a pendant with plano-convex transverse section (Fig. 296:21) apparently was broken off in antiquity. The edge at this point is smoothed but still slightly wavy. There is one example of the type with slender oval-sectioned shaft which terminates in an inverted cone (Pl. 71:11). Since it was found in the debris above the uppermost floor of Phase G and since three examples come from Phase G context (see p. 329 and Fig. 252:31), it is questionable whether this type actually continues to be manufactured in Phase H.

Stamp Seals

Of the four stamp seals, the three available for analysis are of chlorite-rich greenstone. Only one has representational design. Three are hemispheroidal, and the fourth is somewhat button-like with narrow perforated ridge handle.

The design on one stamp seal (Fig. 297:1) consists of nine drill holes spread fairly evenly over the base. Another (Fig. 297:2) combines drill holes and incised lines. The drilled depressions form a cross, whose arms are delimited by short parallel lines at the ends. Short straight lines, perpendicular to and emerging from the edge, decorate each quadrant. The base is slightly convex and at one time was probably round in plan, but a portion of the edge has been rubbed away and with it has gone a bit of the incised decoration. Because stamp seals of comparable shapes occur in Phase E (Fig. 167:1–2) but in no other early phase (not even in G, which yielded many seals) and because of its worn condition, one wonders whether this seal was made in Phase E and reused in Phase H. Division into quadrants and short incised

Fig. 297.—Phase H. Stone Stamp and Cylinder Seals. Actual Size

lines at the edge are both present in Phase E design (see Fig. 167). On the other hand, drilled depressions are not found in Phase E, though one seal (Fig. 167:3) is decorated with four drilled holes that perforate the base.

The design on the base of the third seal (Fig. 297:3) is formed by four gouges and two parallel curved lines. It is perhaps unfinished, for a third curved line seems to have been begun near the edge. The orientation of the design in relation to the perforation is slightly irregular. The upper surface of the seal is decorated with seven drill holes, four of which have bits of white filling (lead base) in them. The findspot given for this seal is ambiguous and may refer to either Phase G or Phase H. There is nothing to connect it definitely with either phase.

The representational design (Fig. 297:4) consists of a long-eared (donkey-like) animal with lowered head, down-curved tail, and two legs shown. Above the back is a motif, presumably to fill space, which might be almost anything, including an animal head.

Cylinder Seals

The two cylinder seals found in Phase H context bear representational designs. One (Fig. 297:5) has a perforated conical top encircled by three parallel grooves. The design consists of three squatting or sitting human figures, an animal with four legs shown, and a drill-centered circle. A line curving up over the back of the animal is not connected with the body but gives the illusion of being a long tail; it may be just a space-filler. The human figures have drilled heads, and their "laps" are formed by two drilled depressions joined by an incision.[28] The posture of the human figures (borrowed from Mesopotamian glyptic), the drill-centered circle, and the shape of the seal are all definitely at home in the Phase G time range. Thus we question whether this seal is actually of Phase H manufacture or a survival from Phase G.

The other cylinder seal (Fig. 297:6) is squat and concave, perforated lengthwise. The impression has a friezelike quality. Two animals face in the same direction. Each is depicted with four legs, short upturned tail, and antler-like horns. A pointed appendage (rendered similarly to the tail) emerges from the back of each animal, directly behind the head; these are possibly only space-fillers. A chevron separates the two animals. What seems to be another chevron is shown on the back of the animal at the left. The flatness of the bodies of the animals is unusual on stone seals.[29]

Bracelet

This fragment (Fig. 298) of chlorite-rich greenstone is of rounded trapezoidal section (longest side forming inner curved surface). It is smoothly ground, but a few shallow tool markings still remain, especially on the inner surface.

Stone Identifications

VESSELS

x2487 discarded; material not analyzed
x5104 greenstone, almost monomineralic chloritic (Fig. 295:1)

CELTS

x2481 probably jasper (macroscopic)
x2709 serpentine-hornblende rock
x3590*a* diabase containing hornblende and plagioclase (Fig. 295:2)

[28] This seal is illustrated in Frankfort, *Cylinder Seals*, Pls. I *d* and XXXVIII *l;* see also p. 229.

[29] It reminds one of a seal impression found at Megiddo; see Robert M. Engberg and Geoffrey M. Shipton, *Notes on the Chalcolithic and Early Bronze Age Pottery of Megiddo* ("Studies in Ancient Oriental Civilization," No. 10 [Chicago, 1934]) Fig. 11 *B*.

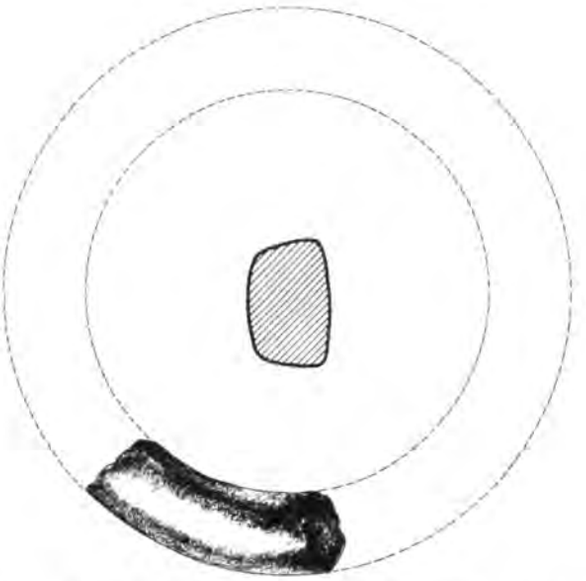


FIG. 298.—PHASE H. FRAGMENT OF STONE BRACELET (x2625). ACTUAL SIZE

WHORL

x2514 not analyzed (Pl. 69:7)

MACEHEADS

x2525 limestone
x2626 limestone (Fig. 295:5)
x2677 in Antioch Museum; material (hard gray stone) not analyzed (Fig. 295:4, Pl. 68:6)

UNCLASSIFIED OBJECT

x5103 chalk (Fig. 295:3)

BEADS

T3821*a* cliachite
x2023 opal, n = *ca.* 1.46 (Fig. 296:14)
x2027 felspar (plagioclase) and epidote (Fig. 296:1)
x2139 chalcedony (Fig. 296:8)
x2140 marble (cf. Fig. 296:1)
x2275 carnelian (cf. Fig. 296:2)
x2391 greenstone, almost monomineralic chloritic (Fig. 296:11)
x2484 brown monomineralic fine-grained stone, n = *ca.* 1.552; not identified (Fig. 296:15)
x2495–96 cliachite, n > 1.568 (cf. Fig. 296:2)
x2498–99 cliachite, n > 1.568 (cf. Fig. 296:2)
x2501 opal (cf. Fig. 296:6)
x2528 serpentine (Fig. 296:4)
x2529 cliachite, n > 1.568 (cf. Fig. 296:2)
x2604* 118 carnelian
Fig. 296:2 and 49 others of same type
Fig. 296:3 and 19 others of same type
Fig. 296:5
Fig. 296:7 and 18 others of same type
5 like Fig. 296:8
5 short barrels

* From "string" of 237 beads (see p. 395 and Pl. 70:1).

Fig. 296:9 and 12 others of same type
Fig. 296:10 and 2 others of same type
Fig. 296:12 and 1 other of same type
99 chrystolite (gem type of olivine) 2V neg. = *ca.* 90°, n_α = 1.654, n_γ = 1.686 (cf. Fig. 296:2)
2 quartz, one with sargonite inclusions (cf. Fig. 296:2)
1 obsidian (cf. Fig. 296:3)
1 white opal
1 amorphous stone; not identified (Fig. 296:13)
x2634 limestone (Fig. 296:6)
x2660 probably nephrite
x2711 weathered soft red rock; not identified (cf. Fig. 296:9)
x2712 cliachite, n = *ca.* 1.58
x3640 carnelian (cf. Fig. 296:3)
x3641 carnelian (cf. Fig. 296:2)
x3642 carnelian (cf. Fig. 296:7)
x3643 cliachite (cf. Fig. 296:2)
x5155 chalcedony (Fig. 296:16)

PENDANTS

x1868 greenstone, almost monomineralic chloritic (Fig. 296:17)
x2471 serpentine-asbestos (Fig. 296:18)
x2490 soapstone (Fig. 296:21)
x2530 in Antioch Museum; material not analyzed (Pl. 71:11)
x2638 chalcedony (Fig. 296:19, Pl. 71:6)
x2799 serpophite (amorphous serpentine) (Fig. 296:20)

STAMP SEALS

x1255 greenstone, almost monomineralic chloritic (Fig. 297:3)
x2389 greenstone, almost monomineralic chloritic (Fig. 297:4)
x2637 greenstone, almost monomineralic chloritic (Fig. 297:2)
x2657 in Antioch Museum; material (light buff) not analyzed (Fig. 297:1)

CYLINDER SEALS

x2390 in Antioch Museum; material not analyzed (Fig. 297:6)
x2502 greenstone, almost monomineralic chloritic (Fig. 297:5)

BRACELET

x2625 greenstone, almost monomineralic chloritic (Fig. 298)

WORKED BONE OBJECTS

Eighteen objects of bone and three of horn are accounted for.[30] Only two, from Bos (Fig. 300) and sheep or goat (Fig. 299:1), were identified. Most of the objects are made on metapodials, and pins are most common.

Two awls are comparable with earlier specimens in that the articular surface is retained as butt. One (Fig. 299:1) is short and has a sharp but stocky point. The point is missing on the other (Pl. 72:3), but it seems probable that it also was fairly stocky. An undulate tooth (Pl. 72:10) is classified as an awl because the end is ground to a slender sharp point. A tool fragment that was reused as an awl (Pl. 73:12) has a roughly whittled point which shows slight polish from use. The upper end is smoothly sawed off; it is not ground but is slightly polished around the edges. The remainder of the bone is smoothly ground and highly polished. The

[30] In addition there are a few uncatalogued objects which are registered as follows: triangular bone point with curved cross section (x1921), two bone awls (x3591, x3593).

section of the object would be oval except for a shallow groove (traces of original bone structure) running the length of the under surface. Its registered findspot refers to either Phase G or Phase H.

A gougelike implement (Pl. 73:7) has too broad a working end for an awl. The under surface at the working end is roughly beveled and shows polish; the tool may be an awl that was broken in use. The head is broken off but probably consisted of the articular surface. A tool made on a splinter (Pl. 73:10) has a pointed chisel-like working end formed by whittling. The tool shows some polish from use but is not ground.

There are eight pins. The head of the simplest (Fig. 299:2), which still preserves some of the articular surface, is rounded off but not smoothed. The original groove of the bone is preserved in the under surface of the upper half of the pin. From the middle to the broken point the pin is smoothly ground to an oval section. The whole surface including the head is highly polished. An object (Fig. 299:3) which is slightly broader than the usual pin is included here because of the careful shaping of the lower half. Only traces of the articular surface are present. The head is smoothly rounded off. The upper half of the object is also smoothly ground, but the under surface still preserves a fairly deep groove indicating the original character of the bone. The lower half is ground to an oval-round section. A fairly stocky pin (Pl. 74:9) shows no trace of the articular surface. The head is squarely trimmed. Perforation was attempted at the head on the lower surface, which still has some of the original grooving. The surfaces are highly polished, but only the lower half is smoothly ground. The original intention probably was to produce a perforated pin similar to that shown on Figure 299:6. A fragmentary pin (x2347) probably had an undecorated head, for the pointed end is sturdy and not quite so slender as those of pins with decorated heads.

Two slender pins with decorated heads (Fig. 299:4 and Pl. 74:4) show no trace of the original shape of the bone. The decoration on both consists of segments defined by incised V-shaped grooves. The ends are rounded off. A slender well finished fragmentary pin with round section (Fig. 299:5) probably had a decorated head.

A fragment of a well made perforated pin (Fig. 299:6, Pl. 74:18) is mainly round in section but becomes oval at the head. The perforation is single-bored. The head may have been squared or rounded off (cf. Fig. 256:12 and Pl. 74:17, both of Phase G).

A highly polished bird(?) bone (Fig. 299:7) is perforated and was probably used as a pendant.

The only bladelike fragment (Fig. 299:8, Pl. 75:9) has cancellous tissue on the lower surface. Since the edges are quite blunt, the working portion of the preserved part would appear to be the flat and very sharp point. Indentations on the edges do not seem to have been used in hafting, for the entire surface shows a high polish; they may, however, have served to provide a better grip.

An object with plano-convex section (Fig. 299:9, Pl. 76:12) is carefully ground into shape and may well have functioned as an arrowhead. Its surfaces are polished.

A large container is made of a Bos femur (Fig. 300).[31] The lower end was partially sawed through to detach it from the articular surface (proximal extremity) and then chopped off. The outer portion of the sawed edge is smooth and highly polished; the rest is rough but shows some polish. Much of the upper edge is missing, but some smoothing is evident on the remaining bits. The whole outer surface is highly polished. The original shape of the bone is not altered. Three single-bored perforations (d. 2 mm.) near the upper end provide for suspension. The lower end was certainly closed, perhaps by a strip of leather bound over it. A groove at the bottom does not seem to be part of the decoration, for it is incised more deeply than any of the pattern above. It probably served to hold in place the material used to close the lower end.

[31] Cf. smaller but similar example in Phase G (Pl. 76:1).

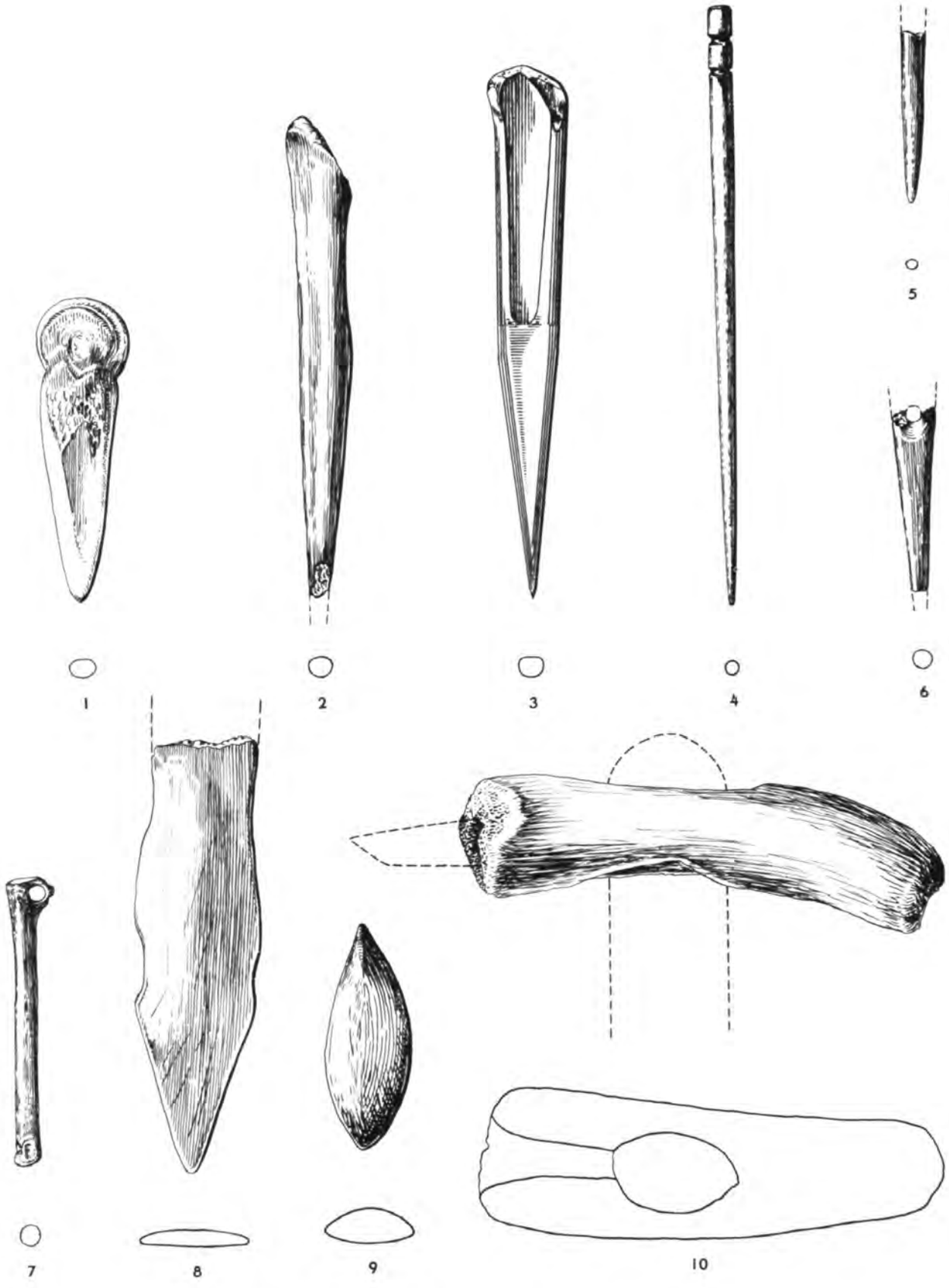


FIG. 299.—PHASE H. WORKED BONE OBJECTS. ACTUAL SIZE

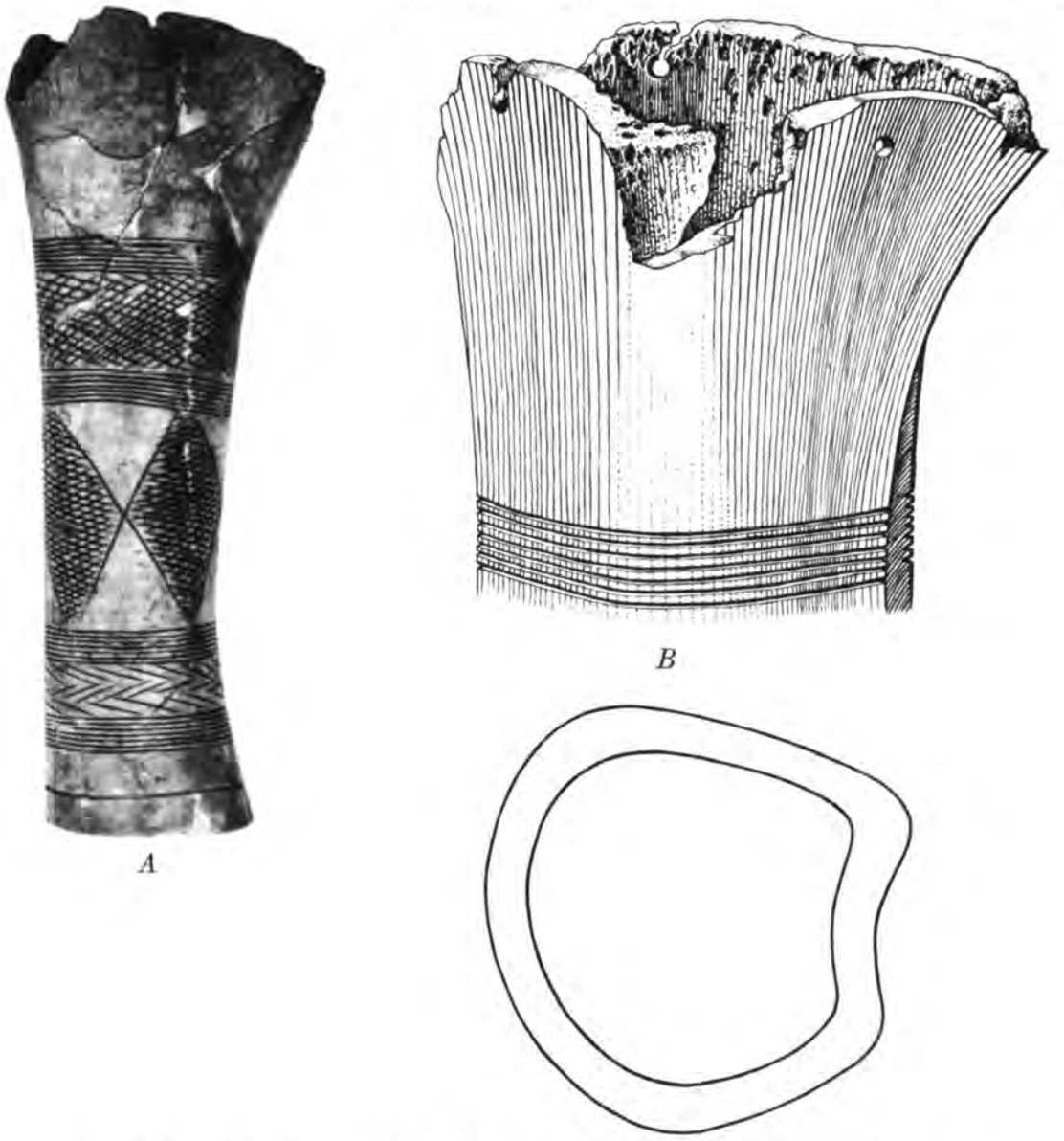


FIG. 300.—PHASE H. BONE CONTAINER (x2603). *A*. PHOTOGRAPH. SCALE, 1:2. *B*. DRAWING OF UPPER PART. ACTUAL SIZE.

The decoration consists of three zones bordered by bands of seven parallel lines. The bands of parallel lines are all neatly incised, but the motifs within the zones are rather carelessly executed. The lowest zone contains more or less parallel vertical zigzags, but there are a few extra parallel lines which rather obscure the zigzags and give the general effect of crosshatching. The middle zone consists of four carelessly made diamonds filled with crosshatching. The lines of the crosshatching are strictly parallel, but the effect is of careless workmanship because the outlines of the diamonds are not neatly followed. The uppermost zone is filled with neat crosshatching, which looks uneven because of chevrons superimposed on it. Parallel vertical chevrons were completed halfway around the object, but on the other half (see Fig. 300 *A*) only the lower halves of the chevrons were finished. When viewed as a whole, however, the general effect of the decoration is impressive despite the general carelessness of execution.

One of the horn objects (Fig. 299:10) may be part of a combination tool. The hafting per-

foration (22 × 15 mm.) is carefully worked. One end of the tool is rounded off and was probably used for hammering. The other end is perforated, and the edges are slightly rounded off. The end perforation is small, but large enough to hold a small stone chisel or adz or a metal tool.

Another horn object (Pl. 77:6) was probably intended as a handle. It is not socketed. The narrow end is smoothly squared, and the other end is rounded off. The rough surface of the horn core was removed by whittling. Most of the surface shows polish from use.

The entire surface of the third horn object (Pl. 77:4) is smoothed and shows some polish. The upper end is broken off. Two short parallel grooves were chopped near the broken end at right angles to the long axis.

FAYENCE AND SHELL BEADS

Quite a few fayence beads were found. Three (T3821*b*) are irregularly shaped (average size: d. *ca.* 4, l. *ca.* 5 mm.) but more or less barrel-like (Fig. 301:1), with pale blue-green glaze still adhering. They were found together with a bead of eliachite (see p. 385). There were fourteen fayence beads in the "string" (x2604) from Judaidah JK 3:11 fl. (see p. 395 and Pl. 70:1, where fayence beads are together at the top left). Blue-green glaze is preserved on a few. Seven are oblate spheroids. The largest is shown in Figure 301:2; five are fairly small (d. *ca.* 5, l. *ca.* 3

FIG. 301.—PHASE H. FAYENCE (*1–2*) AND SHELL (*3*) BEADS. ACTUAL SIZE

mm.), and one is in between these extremes (d. 7, l. 6 mm.). Six small beads (d. and l. *ca.* 4 mm.) are more or less barrel-shaped (cf. Fig. 301:1), and there is one long barrel (d. 6, l. 10 mm.; cf. Fig. 296:9). Samples from each group, along with the fayence bead from Phase G (Fig. 258:2) and one from Phase I (b2651), were sent for examination to Professor Matson, who kindly provided the following report:

The fayence beads are like the type made in Egypt, with sand core and blue-green glazed surface. The quartz grains (d. 0.1–0.15 mm.) of the body are angular and vesicular, containing very fine bubbles oriented in straight lines. This characteristic of the quartz might serve as a clue in identifying the place of origin of the beads, once similar material from many sites has been studied. In one bead (x2604) flint grains were mixed with quartz; this, too, could be a clue as to origin.

The index of refraction of the glaze is 1.498 for the Phase G bead (x2882) and 1.45 for one of the Phase H beads (T3821*b*). In the latter there are a few isotropic triangular crystalline fragments of index 1.45, possibly alum from surface incrustation. Indices of 1.46–1.47 are reported for the bluish-green glaze on objects from Nuzi,[32] and 1.496 is reported for the blue glaze on a fayence sherd from Dura-Europos.[33] These indices are very similar to those of the glaze on our beads, which is no doubt a simple soda-lime-silica composition.

The core of our beads is cream-colored to light brown, probably because of iron in the quartz or in impurities introduced with the binder used to facilitate shaping the core. Analyses of ancient fayence

[32] R. J. Gettens in Richard F. S. Starr, *Nuzi* I (Cambridge, Mass., 1939) 524.

[33] F. R. Matson in *The Green Glazed Pottery* by Nicholas Toll (*The Excavations at Dura-Europos*, Final Report IV, Pt. I, Fasc. 1 [New Haven, 1943]) pp. 89–90.

specimens by Burton, Lucas, and Caley[34] indicate that the body material of fayence consists of 94–99.6% silica. The minor ingredients include the oxides of aluminum, iron, calcium, magnesium, sodium, potassium, and copper; Caley suggests that glaze was sometimes used as the binding medium.

A dislike tortoise-shell bead (Fig. 301:3, Pl. 78:12) has a large perforation. The edges and the perforation are smoothly ground. Three other beads are made of the top portions of small conelike shells (Pl. 78:13, 15). The severed surfaces are smoothly ground and polished, and one example (Pl. 78:15) is rectangular in transverse section as a result of additional shaping. Two shell beads (x2192–93) with metal adhering to them are mentioned on pages 376 f.

BURIAL

The skull of an adult female (x S 11) was found on floor 9 of JK 3 (see Fig. 266). While it was relatively near the surface, no traces were noted to suggest that it had been let down through overlying floors. It was sent to Chicago but was too fragmentary for restoration. No physical data are available.

CACHES

The cache (JK 3:11/1) of four metals (x5065–68) discussed on pages 373 f. (Fig. 293 and Pl. 55) involved no apparently meaningful arrangement. It was found at floor level in the open area west of the north room of JK 3:11 (see p. 346 and Fig. 263). There is also a "string" of 237 beads (x2604) from JK 3:11 fl. (Pl. 70:1) which we were not able to clear with any surety of the original sequence.

NONARTIFACTUAL MATERIALS

VERTEBRATA

Wild: ostrich, *Struthio camelus* (eggshell fragment); fox, *Vulpes vulpes;* deer.
Domestic: equid (three splint bones); pig; sheep (or goat); ox.
Homo sapiens: skull x S 11, too fragmentary for study.

[34] William Burton, "Ancient Egyptian ceramics," *Journal of the Royal Society of Arts* LX (1912) 594; A. Lucas, *Ancient Egyptian Materials & Industries* (2d ed.; London, 1934) p. 417; E. R. Caley, "An analysis of the body material of ancient faience found at Antioch-on-the-Orontes," *Technical Studies in the Field of Fine Arts* VIII (1939/40) 151–54.

XI

PHASE I

INTRODUCTION

The definition of Phase I depends mainly on the pottery. The Phase I materials come from exposures on Chatal Hüyük, Tell al-Judaidah, and Tell Taʿyinat. They were yielded by the following operations:

Chatal Hüyük W 16:4–3 and the lower floor in V 16 (see p. 4), exposures totaling 29.4 sq. m. in area and with maximum depth of *ca.* 1.5 m.

Judaidah JK 3:6, exposure 76.2 sq. m. in area and *ca.* 0.2 m. deep.

Taʿyinat T 4:5–2 (see p. 14), exposure 54.0 sq. m. in area and *ca.* 2.2 m. deep.

Taʿyinat T 8:8–5 (see pp. 13 f.), exposure 24.0 sq. m. in area and *ca.* 2.9 m. deep.

Taʿyinat T 1:6–4 (see p. 14), exposure 6.0 sq. m. in area and *ca.* 1.5 m. deep.

In most of the exposures there were traces of domestic architecture. No stratigraphic irregularities were observed, though the Judaidah exposure was shallow under the surface and yielded mixed talus material on the west. The materials obtained were essentially consistent, within themselves and exposure for exposure and site for site.

The phase begins with the appearance, in an otherwise Phase H type of assemblage, of an extremely standardized ("factory-made") series of pot forms in simple clay and sometimes decorated with simple painted motifs.

There is a remarkably small amount of material available in the stone and bone categories. Such flints as are available continue the tradition of Phases F–H.

ARCHITECTURE

Phase I is very poorly known architecturally. We did not encounter so much as a full room, let alone a whole building. This may be explained on Judaidah and Chatal Hüyük by the fact that the operations were all on mound edge and in Judaidah JK 3 very near the surface and reduced in effective size. Traces of *libn* walls which must have pertained to Phase I appeared in Chatal Hüyük W 16, but we cut through them and no plans were made. The situation on Taʿyinat was different, for all the operations were in the core of the mound. Very little architecture was exposed, however. Apparently we had the ill luck in both of our main Taʿyinat operations, T 4 and T 8, to encounter open areas or large courts or what not. The T 1 operation was very restricted.

Such traces of *libn* walls as we did encounter were as well built as those of Phase H and probably continued the same tradition. Some of those in Chatal Hüyük W 16 and the only one encountered in Taʿyinat T 1 were faced with plaster. It is certain that at least some of the Phase H types of accessory features were present at all three sites.

Since no plan was made of the walls encountered in Judaidah JK 3, we are forced to beg the question whether floor 6 represented a final reuse of the Phase H building which was partially exposed in levels 11–7 (see pp. 346–50). In any case, the accessory features had gone out of use and the sherd sortings are of Phase I types. In Judaidah TT 20 XIII 2, a Second Mixed Range floor which almost certainly represents Phase I, a simple marlaceous basin (cf. Fig. 259),

which does not appear on the section of TT 20 (see Fig. 5), was encountered. A similar basin appeared in section in the face of the W 16 cut on Chatal Hüyük (see Pl. 2 *B*).[1]

The largest single exposure of Phase I was in Ta'yinat T 4. In T 4:5 there were two rather heavy and well built *libn* walls, flanking a corridor or alley, along the east edge of the exposure (Fig. 302). Floor 5 itself was *ca.* 10–15 cm. thick; above it, both inside the narrow corridor and in the open area to the west, were some 25 cm. more of compressed blackened material and fallen *libn*. The area exposed showed the intrusion of two pits from floor 4, which was simply a darkened or grayed line. One of the pits had a smaller pit in its own floor. Floors 3 and 2 were mainly grayed ash lines and showed no architectural features.

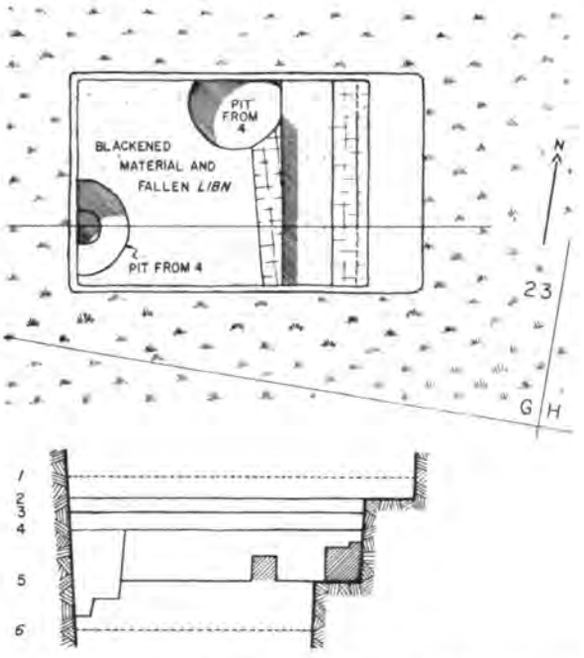


FIG. 302. PHASE I. PLAN OF TA'YINAT T 4:5 AND SECTION OF T 4:5–2. SCALE, 1:200.

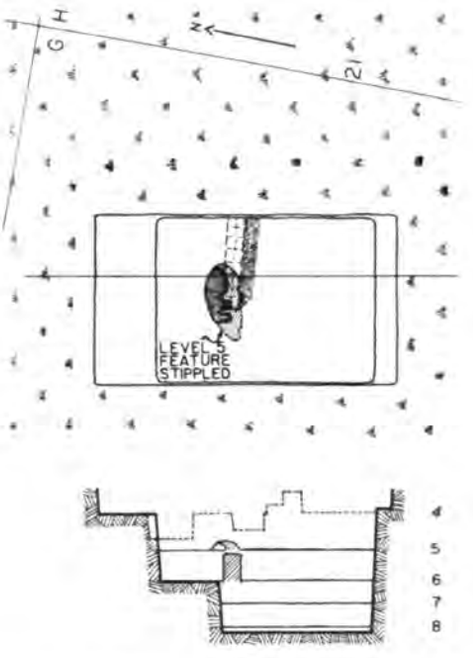


FIG. 303.—PHASE I. PLAN OF TA'YINAT T 8:6–5 AND SECTION OF T 8:8–5. SCALE, 1:200.

In Ta'yinat T 8, floors 8 and 7 were traces of blackened or grayed occupation lines which yielded no architectural features. Floor 6 yielded a portion of a *libn* wall running approximately east-west (Fig. 303). Floor 5 included a multiple hearth generally similar to those of the Phase H building in Judaidah JK 3 (see pp. 346 ff.). It had three fire compartments, whose floor and remaining inner walls were of burnished and fire-hardened marl. Presumably, each of the three ovens was originally more or less domed. The southwest and west flanks of the hearth were fragmentary. If it was once connected with walls, the connection would have been in this portion.

Ta'yinat T 1 yielded no architectural information other than the fact that a plaster-faced *libn* wall was cut through at one point.

POTTERY

The description of the Phase I pottery is based primarily on the selected sherd samplings from Ta'yinat T 4 and T 8. One hundred and fifty sherds from Ta'yinat T 1:6–4 are available for reference but are not included in the count of the total selected field sampling. They indi-

[1] This basin pertains to W 16:3, which is attributed to Phase I on the basis of a cache of pottery (see p. 398).

cate an uncontaminated Phase I type of sorting, but no field notes relating to them were found. The sherd samplings from Judaidah JK 3:6 and Chatal Hüyük W 16:4 are very small. Chatal Hüyük W 16:3 is attributed to Phase I on the basis of a cache of pots (W 16:3/1; see p. 428) plus several isolated reconstructible pots, though the sherd sampling (not used) was very small and unsatisfactory. The sherds illustrated in the text figures are from Ta'yinat unless marked *J* (for Judaidah) or *C* (for Chatal Hüyük).

Phase I is defined ceramically by the following criteria:

1. Disappearance of wares first seen in Phase G, though certain techniques (e.g. reserved slip) very likely evolved out of habits established during Phase G.
2. Continuation of Red-Black Burnished Ware, its disappearance being one of the criteria of the end of Phase I. Some typological changes and emphasis on all-red coloration help distinguish this ware in Phase I from its Phase H counterpart.
3. Rather insignificant cooking pots, which seem to be mainly carelessly made examples that copy, in a variety of clays, some of the Red-Black Burnished Ware profiles.
4. Continuation of Brittle-Orange Ware, which apparently dies out early in Phase J (see p. 432).
5. The beginning of Phase I is defined in part by the appearance of a new Simple Ware marked by characteristic profiles, a tendency to corrugate the outer surface, and a few cases of raised V-sectioned bands.
6. Appearance of Painted Simple Ware of the same fabric as the Simple Ware.
7. Appearance of Smeared-Wash Ware coincident with the beginning of the Simple Ware (and the commencement of Phase I).

The descriptions which follow are based on a total selected field sampling of 1,463 sherds and on some sixty-five complete or reconstructible pots (including those from Chatal Hüyük W 16:3).

Red-Black Burnished Ware

(35–40% of total selected sherd bulk)

The general description of the fabric as given under Phase H (pp. 358–61) is recapitulated here, with notations of the changes which seem to distinguish the Phase I manifestation of the ware. A detailed megascopic examination of the Phase I fabric was not made because its general appearance seems so similar to that of Phase H.

It seems possible that a fair part of this pottery is still handmade; the burnishing and polishing and the tendency of the surface layer to break down obscure the original preparation technique. The firing apparently remains medium to light. There is now a greater tendency to all-red surfaces and a consequent decline in the proportion of examples which show blackened portions of the core caused by surface treatment. On the other hand, there is a somewhat larger proportion of sherds with all-red surface and unoxidized (dark) central core (see Pl. 87:8). The paste color remains essentially as in Phase H, normally red-organge buff but ranging from light tan-buff to unoxidized black. The mineral inclusions are apparently much the same, most characteristically varicolored and of medium size and concentration. Pits caused by fine plant tempering are also apparent.

The proportion of slipped examples remains high; only 18% of the sherds now have natural tannish-buff surfaces. But the all-red surface treatment increases appreciably, occurring on 57% of the sherds. Only *ca.* 24% show the intentional red-and-black surface effect (cf. Pl. 86:4–5), as against slightly over a third in Phase H (see p. 360). This decorative effect becomes increasingly less common, however, until in the latter part of Phase I it is almost entirely replaced by the all-red slip. The red is normally a full red-orange tone as in Phase H (see Pl. 86:1), but a fair number of examples show a redder red-orange (see Pl. 87:8). The full color

range is from buffish red-orange to smoked brownish or gray. A few sherds (*ca.* 1%) are more or less all black, with white-filled decoration (see Pl. 87:4).

As in Phase H, unslipped examples are most common among large jars, lids, and "andirons"; and the surface is usually tannish buff (cf. Pl. 87:7), or some discoloration thereof resulting from contact with fire, and quite well burnished, though there was no attempt at polishing.

The careful burnishing of all available surfaces is still generally characteristic, as is some attempt at polishing. Plastic decoration decreases in about the same way as the red-and-black treatment, and there is little of it by the end of the phase. A few more cases of white-filled decoration appeared in Phase I than in Phase H, but the actual proportion of examples is still insignificant. This type of decoration is now used on bowls and jars as well as on lids (cf. p. 361). It too is restricted to the early and middle floors (see Fig. 307:19–20 and Pl. 37:8 for two body sherds).

Most of the discussion of the Phase H portion of this ware (see p. 361) also applies in Phase I. The increasing use of red slip, as Braidwood has shown, is now characteristic. Refiring experiments have shown that the blackened areas are not slipped, and therefore black surfacing would decline as the use of slip increased. The clay surface is burnished and polished before firing and is not affected by the application of the organic material that blackens it. One factor of importance, however, is the type of clay used. Some clays can be impregnated with carbon more successfully than others. This factor will be discussed in the final report in the volume of technical studies.—MATSON.

Some significant changes may be noted in the profiles. Rather thick-walled hemispherical and subhemispherical bowls now predominate (Figs. 304:1–7, 305:1, 3 and Pl. 33:7, 6). Some of these have incurving lips such as appear in Phase H (cf. Fig. 281:1–6 with Fig. 304:13–17), and one subhemispherical example (Fig. 304:8, Pl. 87:4) has a splayed lip decorated with white-filled incisions. Relatively low vertical-sided bowls, the predominating type in Phase H (e.g. Fig. 282:2), while still present in the earlier part of Phase I, are no longer so common (Fig. 304:9–11). A large complete bowl (Fig. 305:2, Pl. 34:1) is one of several which represent a sort of compromise profile, not quite hemispherical nor quite vertical-sided. Taller cups (Figs. 304:18–20, 305:7), sometimes with unpierced blobs (cf. Fig. 282:5–6), are rather numerous, but small krater-like cups, while available in several reconstructed examples (e.g. Fig. 305:6, 8–9), are less common. In Phase H taller cups are fairly numerous (e.g. Fig. 281:22).

Several very large plain hole-mouth jar rims appeared (Fig. 304:21–22). The "rail"-rim type of large jar, with horizontal fluting as in Phase H, is present in the earlier part of Phase I. Large jars like those represented on Figure 304:23–26 (also Pl. 35:16) are not common in Phase H, and Figure 305:5 is probably an associated form; such jars are quite commonly unslipped.

Kraters of intermediate size likewise are commonly unslipped (Figs. 304:27 and 305:10, Pl. 34:4). They normally have some sort of lug on the lip and are common in Phase H (see Fig. 283). The kraters show great variety in both size and body thickness (Figs. 304:29–30, 305:6, 8–9). It is on such vessels, in the earlier part of Phase I, that the characteristic red-and-black surface effect is best seen. A fine group of five complete or reconstructible kraters of this type appeared in Taʿyinat T 4:5 (e.g. Fig. 306:1, 3 and Pl. 34:2–3).

Collared jars are present, as in Phase H, but are still relatively uncommon (Figs. 307:3 and 305:4, Pl. 34:5). One collar sherd shows white-filled incised decoration (Fig. 307:5). Another sherd with this type of decoration (Fig. 307:6) is presumably a jar collar but might possibly pertain to some sort of base or stand. There are also sherds of smaller bottles or pitchers (Fig. 307:1–2, 4).

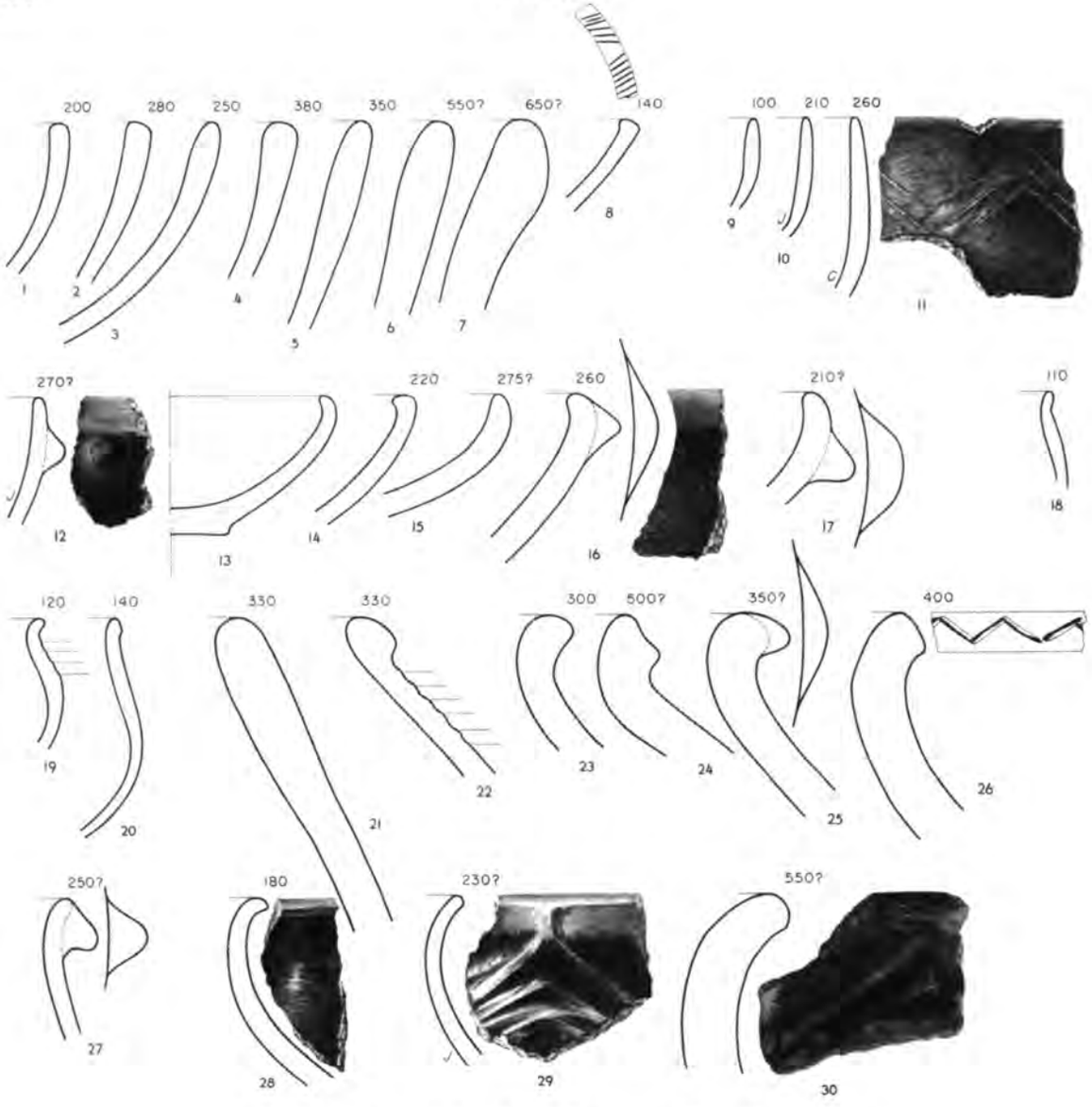


FIG. 304.—PHASE I. RED-BLACK BURNISHED WARE. SCALE, 1:3

The hollow double-flared cylindrical profile (see p. 364, n. 12) continues. There is one complete example (Fig. 306:4), and there are sherds (e.g. Fig. 307:7) which probably pertain to such objects. A squat unflared cylinder (Fig. 306:2) is unique.

Several sherds seem to indicate that there was some attempt to copy profiles normal to the Phase I Simple Ware. Two of these are illustrated (Fig. 307:8–9); No. 8 suggests the standard simple goblet (see p. 412), and No. 9 certainly imitates the truncated conical cup with its incised type of base (see pp. 410 f.).

Pot lids of the Phase H type persist (Fig. 307:10–12), although perhaps they are now slightly less common. The general profile, the knob handle, and the occasional white-filled impressed or incised decoration are all present. As in Phase H, little care seems to have been given to achieving good surface colors.

"Andiron" (see pp. 372 f.) fragments are less common in Phase I (*ca.* 50) than in Phase H but show no significant differences (Fig. 307:21–22; also Figs. 290:9–10 and 12, 291 *B* 3).

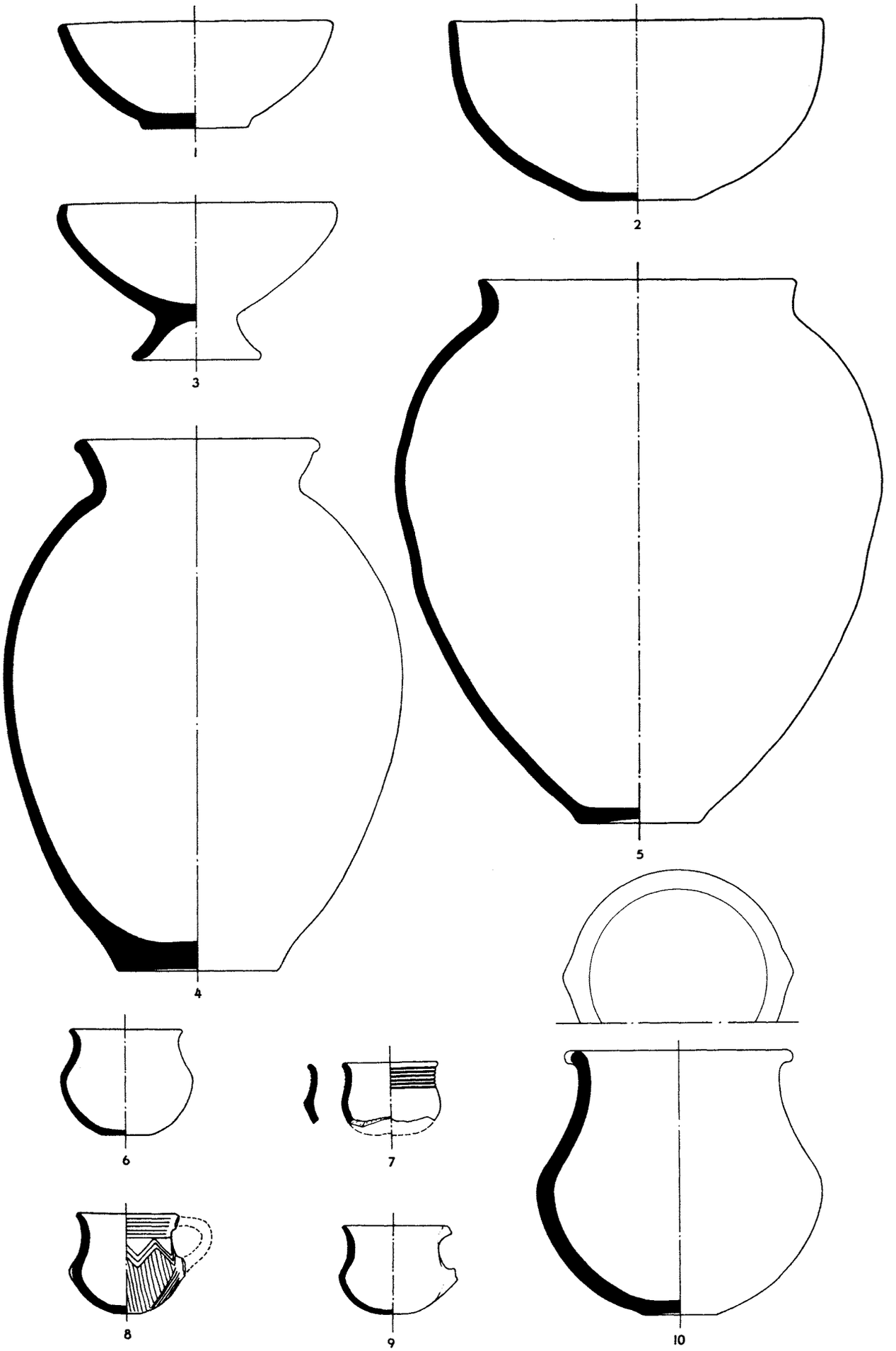


FIG. 305.—PHASE I. RED-BLACK BURNISHED WARE. SCALE, 1:5

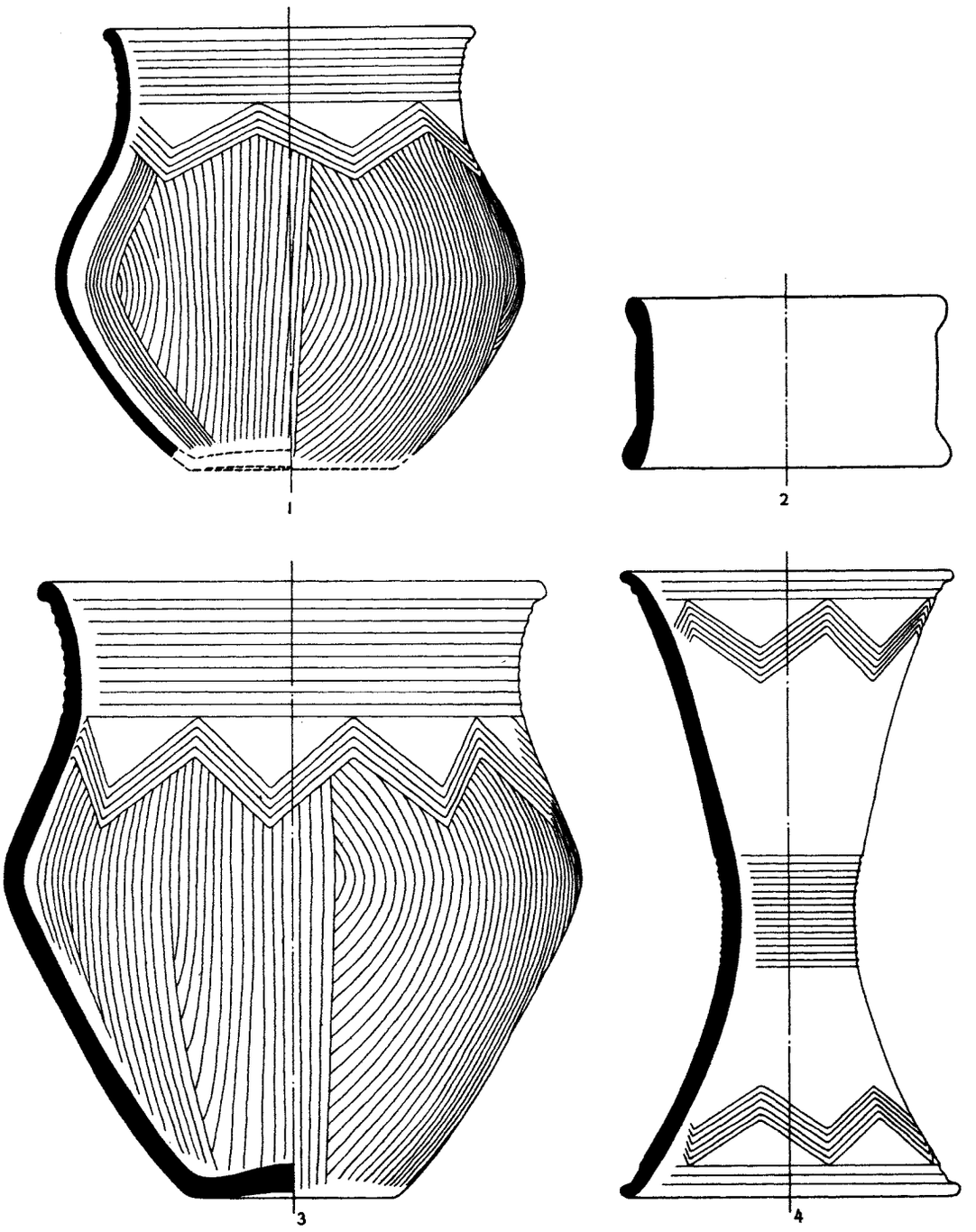


FIG. 306.—PHASE I. RED-BLACK BURNISHED WARE. SCALE, 1:5

As for bases, the Phase H type of markedly concave base (see Fig. 285:20–24) is not present. In Phase H this feature is most common on vertical-sided bowls, thin-walled hemispherical bowls, and kraters (see Fig. 282:2–3, 7), all of which are relatively uncommon in Phase I. Rather flat concave bases (Fig. 307:13–14) occur on vertical-sided bowls (cf. Fig. 358:1) and on jars and kraters (Figs. 305:4, 5, 10 and 306:3), but slightly raised flat bases (Fig. 307:15–16) are most common in Phase I and there is a fair number of pedestal bases (Figs. 307:17–18, 305:3).

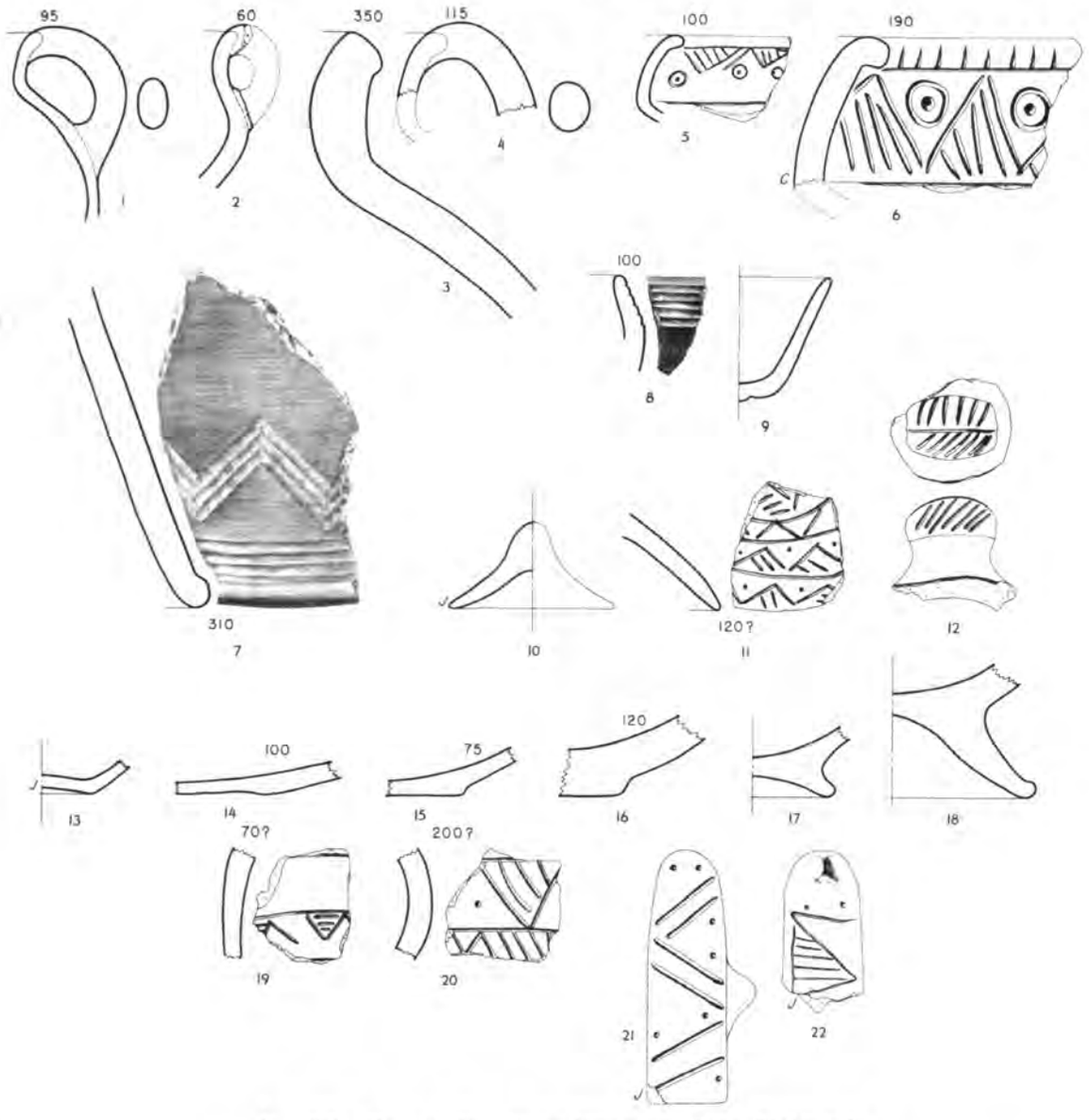


FIG. 307.—PHASE I. RED-BLACK BURNISHED WARE. SCALE, 1:3

Some low ledge handles and lugs were noted on bowls (Fig. 304:12, 16, 17 and Pl. 35:3), jars (Fig. 304:25), and kraters (Fig. 304:27), and there are also some loop handles (Figs. 305: 8–9, 307:1–2, 4); but such secondary features are no more common now than they are in Phase H.

COOKING POTS

(2–7% of total selected sherd bulk)

This is a rather difficult group to assess and classify. The clays lack consistency, and there is a fair variety of profiles; on the other hand, the group as a whole is small. The material is presented in three subgroups which might or might not hold if a larger bulk were available for study.

1. The vessels of the first subgroup were handmade, and the apparently standard fabric is lightly fired and burnished. The inclusions resemble those of the Red-Black Burnished Ware (see p. 360); the clay seems rather sandy, and the appreciable inclusions are sparse in concen-

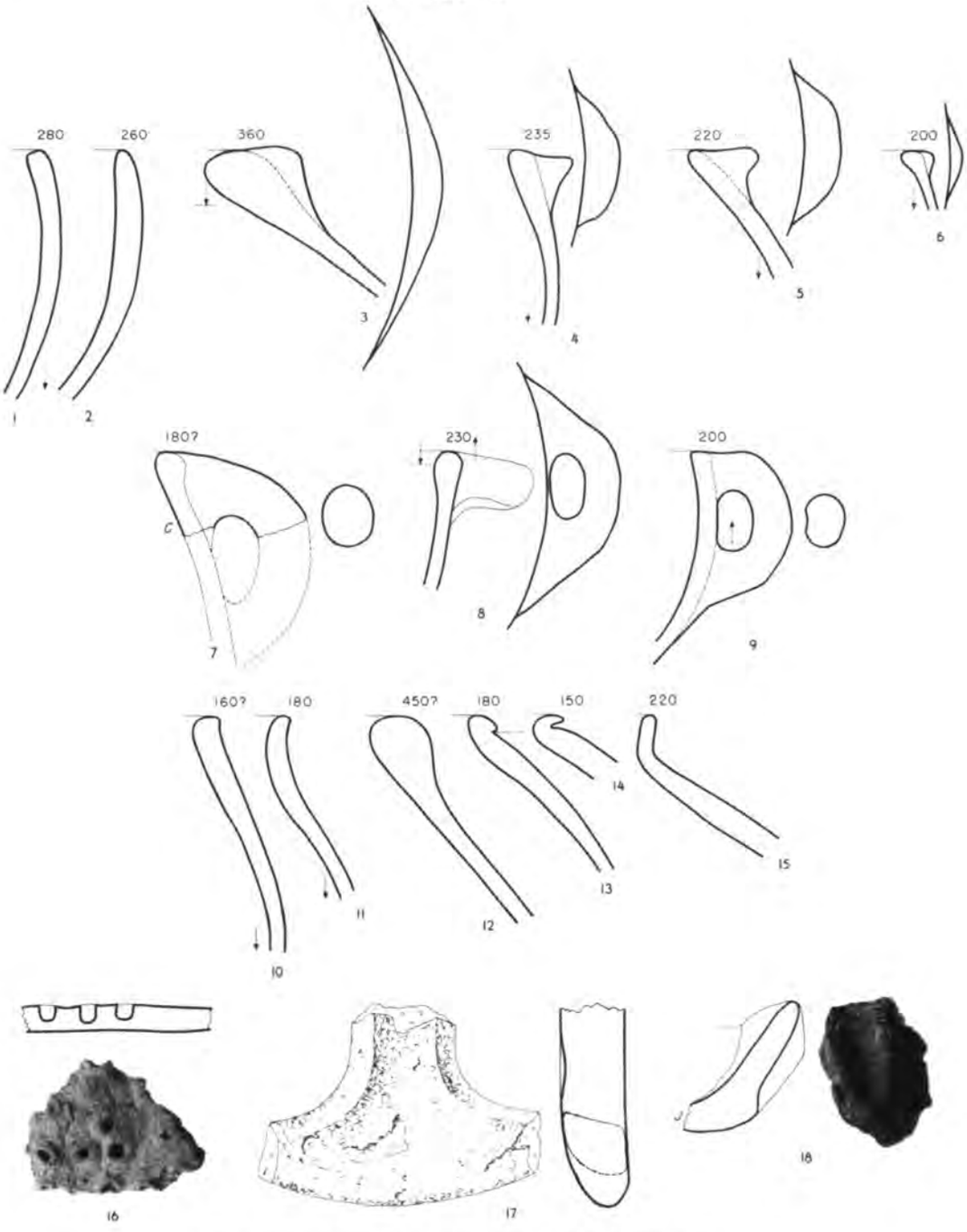


FIG. 308.—PHASE I. COOKING-POT SHERDS. SCALE, 1:3

tration and *ca.* 40% medium, 20% coarse, and 40% very coarse. The paste normally is orange-brown buff, but *ca.* 80% of the examples have dark unoxidized central cores. The surface color is normally dull orange-brown buff, ranging from light orange-buff or gray-buff to dark smoked gray or brown. There is sometimes a sort of self-slip effect, and the care expended in burnishing varies considerably.

The profiles might conceivably be associated with those of the Red-Black Burnished Ware. The sherds seem to indicate that the preponderant and most characteristic profile is that of a hole-mouth vessel with thickened rim and mainly vestigial ledge handles at the lip (Figs.

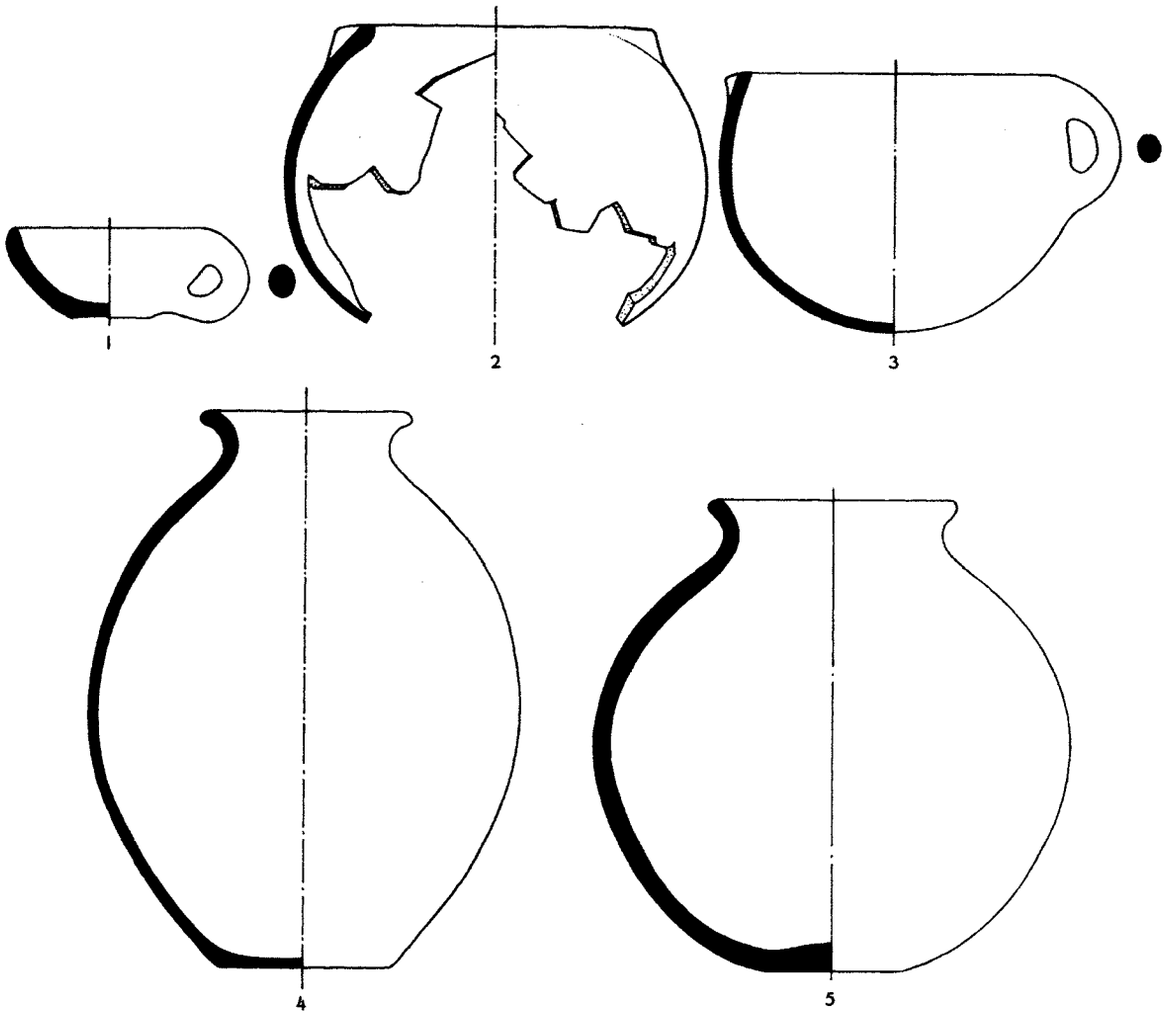


FIG. 309.—PHASE I. COOKING POTS. SCALE, 1:5

308:3–6 and 309:2, Pl. 39:5). There seem to be some bowls (Fig. 308:1–2), which may be provided with handles, and there is one complete handled cup (Fig. 309:1). Some examples (e.g. Figs. 308:7–9, 309:3 and Pl. 39:2) approach the typical hole-mouth form very closely. One of these (Fig. 308:8) has a circumflex loop handle; plain loop handles are not unusual, but the vestigial ledge (Fig. 308:3–6) is most common. Several rim sherds from "olla" type vessels appeared in the same general type of clay (Fig. 308:10–11).

2. The second subgroup consists of still fewer sherds and three complete pots. There is some variety of clays, none of which conform to that described for the first subgroup. A rather coarse handmade and heavily chaff-tempered jar of orange-buff color has an unoxidized core (Fig. 309:4). Another handmade jar (Fig. 309:5) is of somewhat lighter orange-buff color and has less chaff temper. The clay of the latter is within the range of variation of the Red-Black Burnished Ware clay, but neither of these pots has special surface treatment or burnish. Sherds of other coarse pots (Fig. 308:12–15, Pl. 39:3–4) likewise tend toward heavy chaff-tempering and have no special surface treatment. One sherd (Fig. 308:12), for example, may simply represent an experiment at making the normal profile of the first subgroup in a variant clay.

3. The third subgroup consists of odd fragments which may not represent vessels in the normal sense. The three examples shown (Fig. 308:16–18) are of very coarse clay with heavy chaff temper and occasional very heavy grits. No. 16 is possibly a base sherd of a strangely

pitted object of Phase J type (see p. 432 and Fig. 334:22–25); what is shown as the lower surface in the section is carefully burnished, and the intentionally pitted upper surface is so rough that something must have spalled off. No. 17 is apparently part of a pierced grill. No. 18 may be a fragment of a rough scoop or dipper.

Brittle Orange Ware

(4–9% of total selected sherd bulk)

The characteristics of the fabric are given in detail under Phase H (see pp. 368 f.). In Phase I it is brick-orange in color, usually completely oxidized, and again over half the sherds are burnished. There are three clear examples of incised decoration.

There are even fewer bowl profiles than are available from Phase H. A complete miniature bowl with low pedestal base was found (Fig. 311:4), but this type is not represented in the sherd samplings, though a base sherd (Fig. 310:14) perhaps pertains to a somewhat similar form. The only sherd which clearly represents a bowl (Fig. 310:1, Pl. 38:4) has a sharp change in plane and a slight lip bead. Lip beads appear in several other cases (see Fig. 310:8, 11), including the hole-mouth profile (Fig. 310:2), and are present in Phase H (see Fig. 286:4–5).

The sherds indicate that collared jars are preponderant. Smaller examples (Fig. 310:3–6) are much less common than larger ones (Fig. 310:7–9, 311:1). It is usually easier to see how the collars were added to the smaller jars than to the larger ones. Sherds showing a high collar with slightly outrolled (Fig. 310:7, Pl. 38:7) or beaded (Fig. 310:8) lip are the most characteristic (see Fig. 286:6 for a Phase H example), and apparently the typical form has rather high shoulder and ring base (Fig. 311:1).

A few sherds of narrow-necked jars appeared (Fig. 310:10, 15), also a jar which was originally spouted (Fig. 311:2). There is a pitcher (Fig. 311:3, Pl. 38:3) whose pouring lip was apparently formed rather than simply pinched, though unfortunately the tip is not extant.

A sherd with beaded lip (Fig. 310:11) apparently is from a large goblet rather than a bowl (cf. Fig. 287:2).

Bases are flat (Fig. 310:12), ring (Fig. 310:13–14), or pedestal (Fig. 311:4; but cf. Fig. 286:11). Loop handles occur, either round (Fig. 310:15) or ovoid (Fig. 310:5, 16) in section; No. 16 is grooved. A narrow-necked jar (Fig. 311:2) was originally provided with a cylindrical spout.

The incised decoration (Fig. 310:17–19, Pl. 87:2) is peculiar in that it seems to have been done after firing.

Simple Ware

(41–46% of total selected sherd bulk)

This ware gives the impression, in bulk, of having become—even early in Phase I—the most standardized and "factory-made" of any of the ceramic products we have yet met in the ʿAmuq sequence. It continues through Phase J, and, though some distinguishing features in profiles and details are lost and others are added, the impression of standardization remains throughout.[2]

The following description of the fabric holds for both the Phase I and the Phase J manifestation of the Simple Ware; the criteria which distinguish the two manifestations are to be noted rather in profiles and details. The vessels were wheelmade and fired at a medium temperature. While up to 90% of the core may show lack of oxidation, it is normally oxidized. The normal paste color on a clean break is rather lightish orange-buff to greenish buff; the light extreme

[2] Two theories which are treated in chap. xiv are mentioned here simply in passing. The first is that the Phases I–J Simple Ware was derived from the Phase G Plain Simple Ware (see p. 520). The second is that the Phases I–J Simple Ware manufacturing tradition as a whole persisted after the end of Phase J, with only certain of the peculiar features which are taken as characterizing Phase J dying out (see p. 523).

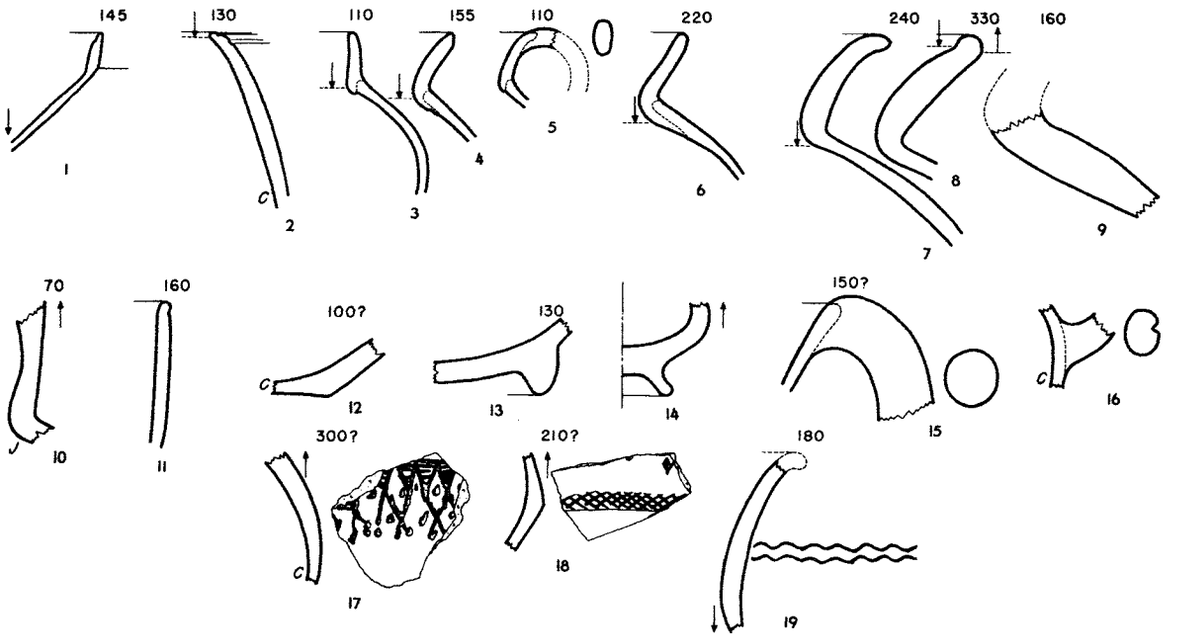


FIG. 310.—PHASE I. BRITTLE ORANGE WARE. SCALE, 1:3

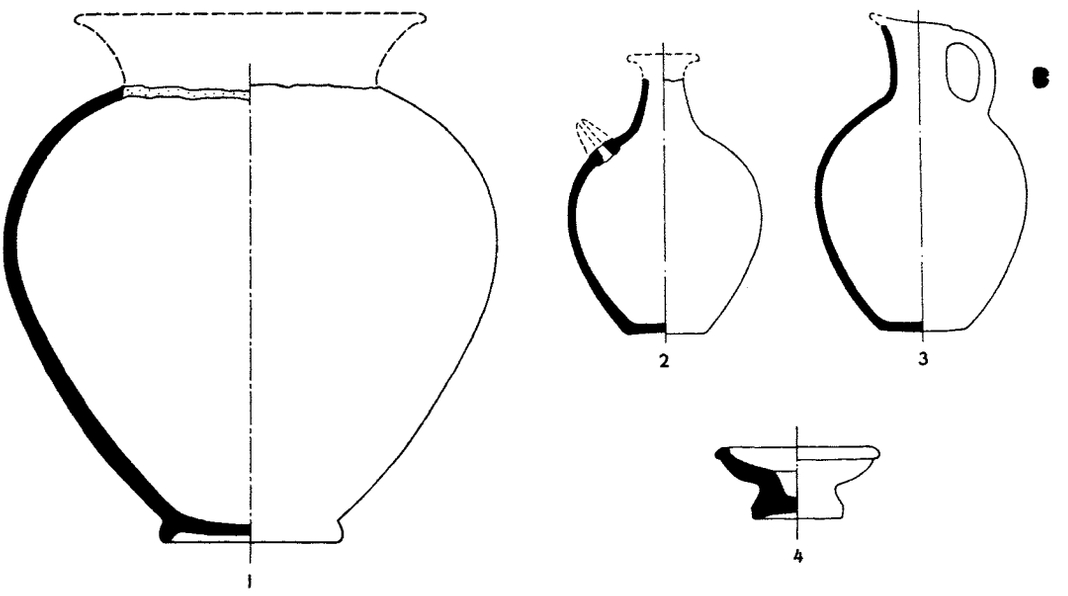


FIG. 311.—PHASE I. BRITTLE ORANGE WARE. SCALE, 1:5

runs to light yellow-buff, the dark extreme to dark greenish buff, gray-buff, or gray-brown buff. The mineral inclusions are in the main varicolored grains of sand, predominantly fine. In a large number of cases, especially in the smaller delicately profiled vessels, megascopic examination showed no inclusions save for odd accidental occurrences.[3] The texture is dense and

[3] In the 255 sherds of Phases I–J the megascopic breakdown was as follows:
45% with few or no inclusions
31% with medium to heavy concentration of fine inclusions
9% with medium to heavy concentration of medium-sized inclusions
1% with medium to heavy concentration of coarse inclusions
2% with medium to heavy concentration of very coarse inclusions
11% with odd accidental coarse to very coarse inclusions.

somewhat granular where sandy inclusions occur; the fracture is usually straight and smooth, and the fabric seems fairly hard. The surface coloration (Pls. 87:1, 3, 5; see also Pl. 89:1 and 6, of Phase J) follows the color range of the paste but is naturally duller and less intense than that seen in a clean break. The surface is smooth, save where coarser sand inclusions occur, and seems to be wet-smoothed. There are many cases of self-slip, which is several degrees lighter in color than the paste. Some abrasion has taken place, but the surface is generally even and well preserved.

As to the decoration, a more or less marked feature appears on some 47% of the Phase I sherds. This is the tendency to corrugate the outer surface with fine horizontal rills (see Figs. 312–13 and Pls. 40–42, also Pl. 87:1, 3), which are actually spirals and were probably formed as the pot revolved on the wheel. The possible derivation of this technique is discussed on page 413. There are a few examples of grooved rim bands (Fig. 312:32–35, 48) and of raised V-sectioned bands on large jars (Figs. 312:44–45, 314:10; see also Fig. 361:7 and Pl. 47:1). Comb-incision and comb-impression both occur in Phase J but not in the Phase I samplings, save for one comb-impressed sherd from Taʿyinat T 4:2.[4] Comb-impression and perhaps comb-incision occur as early as Phase G (see pp. 293 and 281).

There is great variety in texture and size of the pieces classified as Simple Ware. Wall thickness varies from 3 to 17 mm., and the texture varies accordingly, as would be expected. No characteristic differences could be detected between the pieces found at Judaidah, Taʿyinat, and Chatal Hüyük. Two-thirds of the pieces studied are of the *serpentine* type clay, while the remaining third show a great variety of pastes—*calcite, quartz*, levigated *calcite in red clay*, and a few specialized fabrics that will be discussed in the final report in the volume of technical studies. The vessels were well fired, in some cases at temperatures exceeding 1000° C. as shown by the green color.

Possibly the Simple Ware classification is more inclusive than any in the earlier phases because by now there is a greater tendency to standardize on fewer shapes and decorative techniques. The skill of the potters has developed to the extent that they can utilize several types of clay and vary the texture to suit the sizes of the vessels, thus producing a product with over-all uniformity that makes it impossible and unnecessary to subdivide this group. A further consideration must certainly be the role of ceramics in the culture. Perhaps the uses are restricted as metal containers become more plentiful.—MATSON.

The sherds indicate a tendency toward rather simple bowls in a large range of sizes (Fig. 312:1–20). Bowls of intermediate size predominate and tend to have plain lips (Fig. 312:6–9); modeled lips (Figs. 312:10–12, 314:1) are more exceptional. A profile with slightly inturning or vertical upper body and a tendency to modeled lips is well represented (Figs. 312:13–18, 314:2). The example with a ledge handle (Fig. 312:18) is exceptional, and the large tub rims (Fig. 312:19–20) are rare. One sherd indicates a bowl with sharp change in plane (Fig. 312:21), and one shows a sinuous profile (Fig. 312:22).

Among the most characteristic profiles, and most likely to have corrugation, are small low-collared jars (Fig. 312:23–28); Nos. 27 and 28 are abnormally thin- and thick-walled respectively. A complete example (Fig. 314:6) has corrugation which is too fine to be shown in the drawing. Three other complete examples are not illustrated but have counterparts in Phase J (see Fig. 338:19). Figure 314:3–5 show the variety possible in a class of small jars which is not well represented in the sherds, though three sherds (Fig. 312:36–37, 46) could pertain to such forms.

For larger jars, the sherds indicate a rather low-collared group (Fig. 312:29–31). One complete jar (Fig. 314:7) probably belongs to this group, and two others (e.g. Fig. 314:8) possibly do. By far the most common are jar sherds which indicate a rather narrow neck with straight

[4] There is a rather enigmatic case of comb-incision from Phase I context (see Fig. 322 and pp. 417 f.).

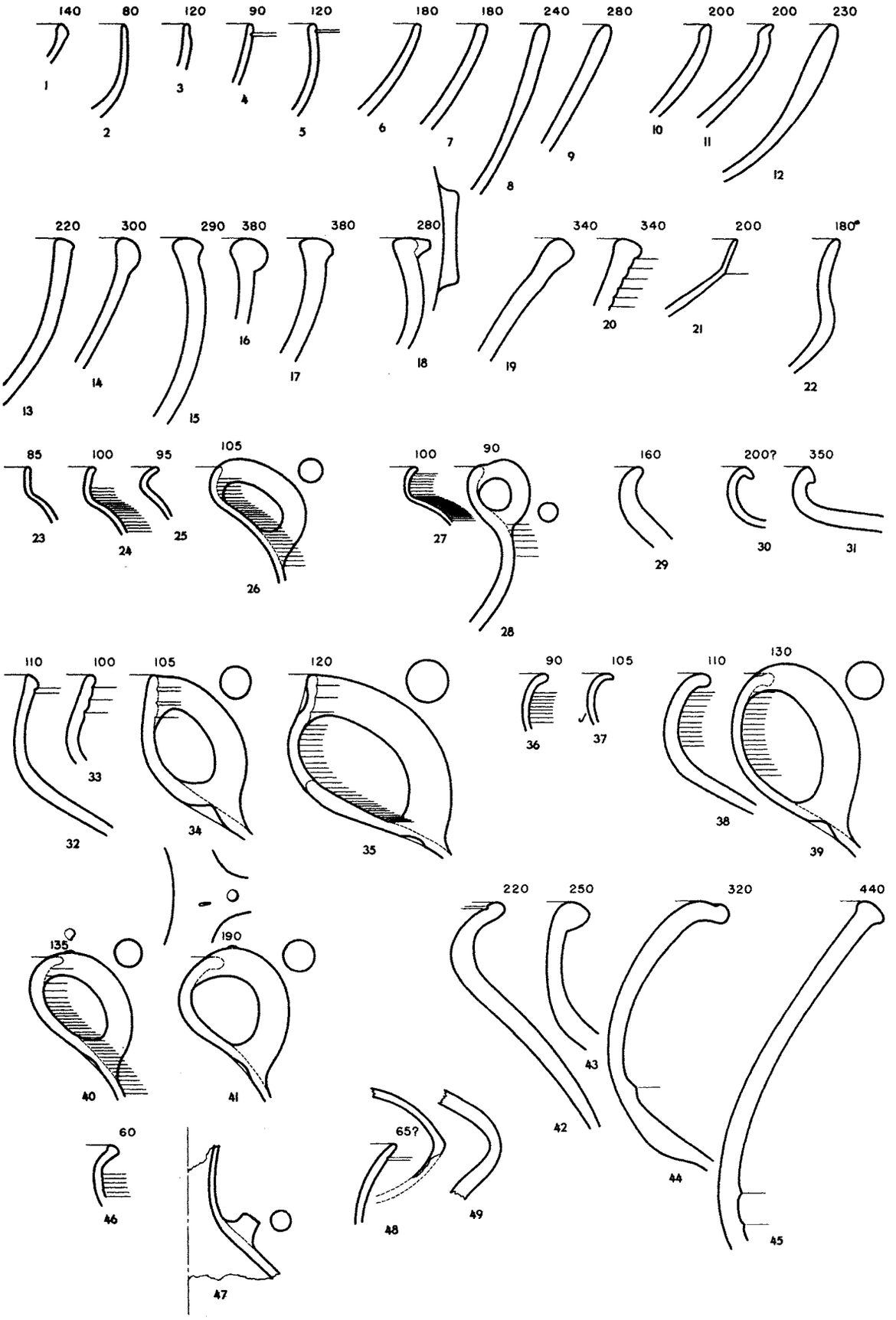


FIG. 312.—PHASE I. SIMPLE WARE. SCALE, 1:3

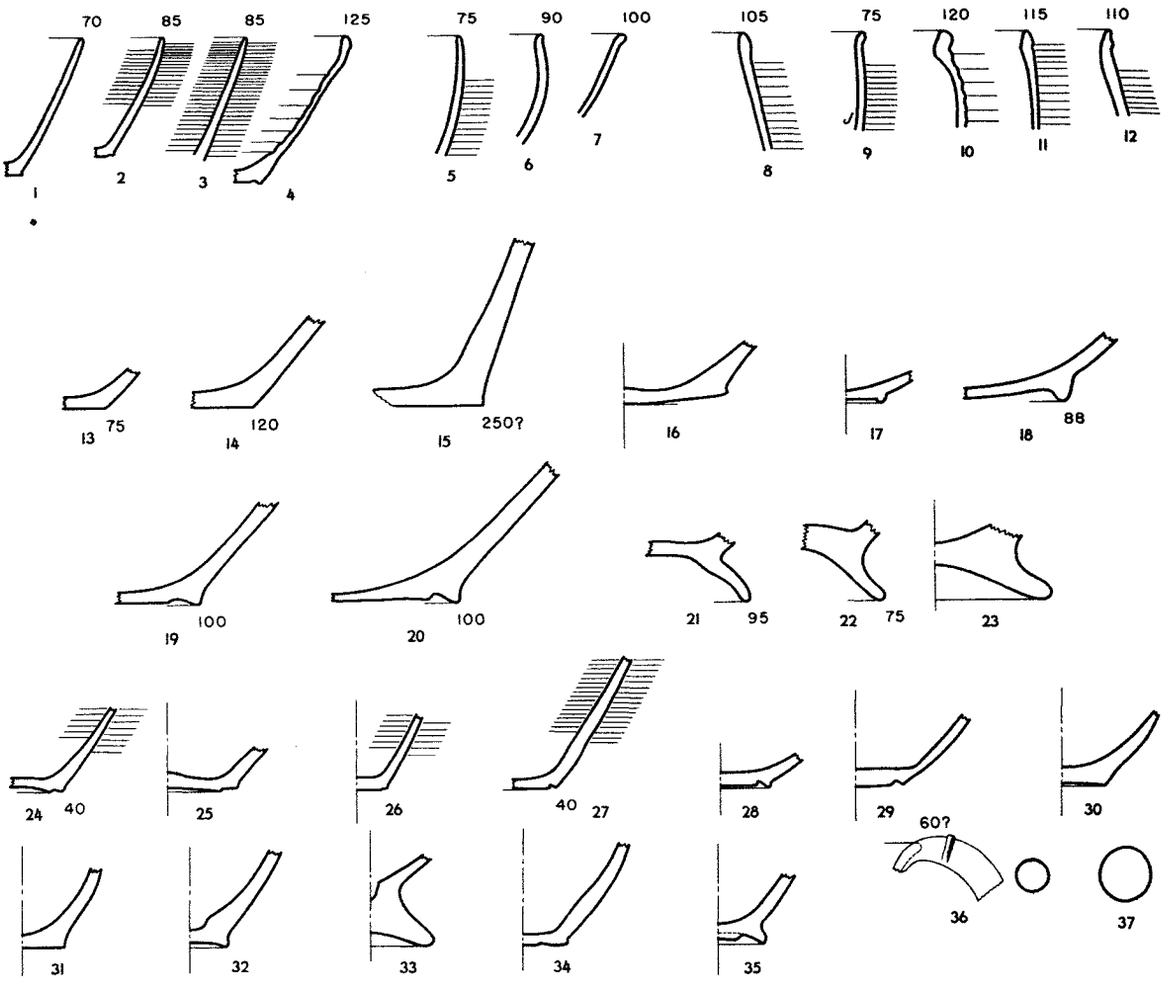


FIG. 313.—PHASE I. SIMPLE WARE. SCALE, 1:3

(Fig. 312:32–35) or outrolled (Fig. 312:36–41) lip. Nos. 36–37 must belong either to small jars (like Fig. 314:3–5) or to bottles (like Fig. 315:1). Nos. 38–39 probably represent a form close to that of a Second Mixed Range example (Fig. 361:8). Rims of very large jars (Figs. 312:42–45, 314:9–10) show some variety in lip treatment and in collar height. Some have clear traces of raised V-sectioned bands, which a Second Mixed Range complete jar (Fig. 361:7) shows very well.

Bottles and pitchers are reasonably common. Figure 315:1 (Pl. 40:10) shows a good example of a complete bottle. Another complete example (T 3694) has counterparts in Phase J (see Fig. 337:12). Figures 312:47–49 and 315:2 show pitchers, possibly Figure 312:46 also (see above). The rim plans shown indicate either a plain drawn-out pouring lip (Fig. 312:48) or a tendency to pinch the lip (Fig. 312:49). A complete pitcher with pinched pouring lip (e175) has a counterpart in Phase J (see Fig. 337:13). Figure 315:2 shows a rather broad-necked collared form with a pinched lip. Sherds of narrower-necked bottles with pinched lip also occur (cf. Figs. 317:5 and 318:4, or Fig. 337:14 of Phase J).

One of the most important hallmarks of the Phase I Simple Ware is the truncated conical cup (Figs. 313:1–4, 315:3–6 and Pls. 40:7, 41:10, 87:3). A tall and delicately profiled type, with corrugated surface and incised ring base (Fig. 315:3, Pl. 40:7), is restricted to Phase I in our samplings. A lower more open type with corrugated surface and incised ring base (Fig. 315:5) appears also in early Phase J (see Fig. 338:3). Plain-surfaced cups with incised ring

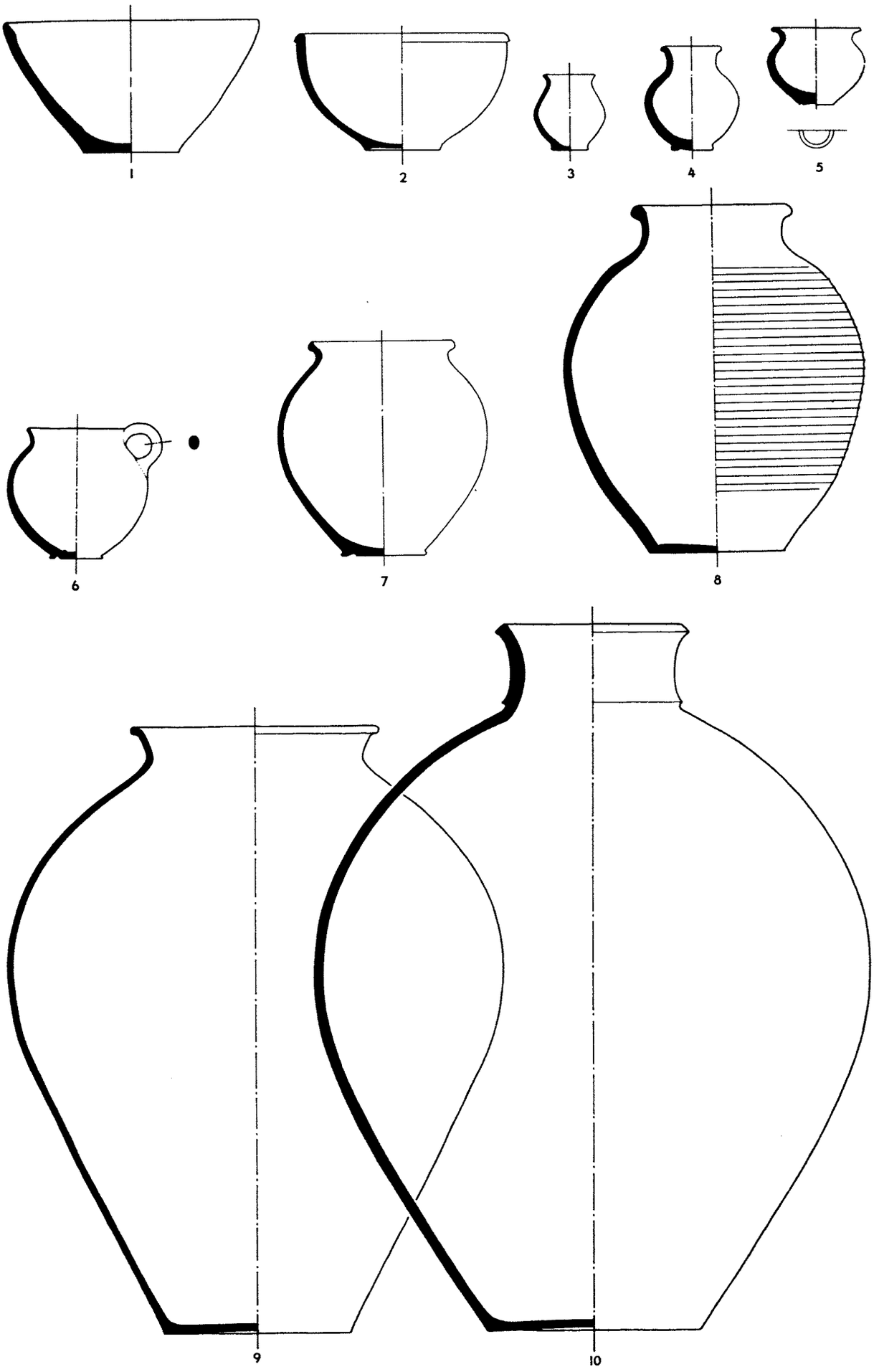


FIG. 314.—PHASE I. SIMPLE WARE. SCALE, 1:5

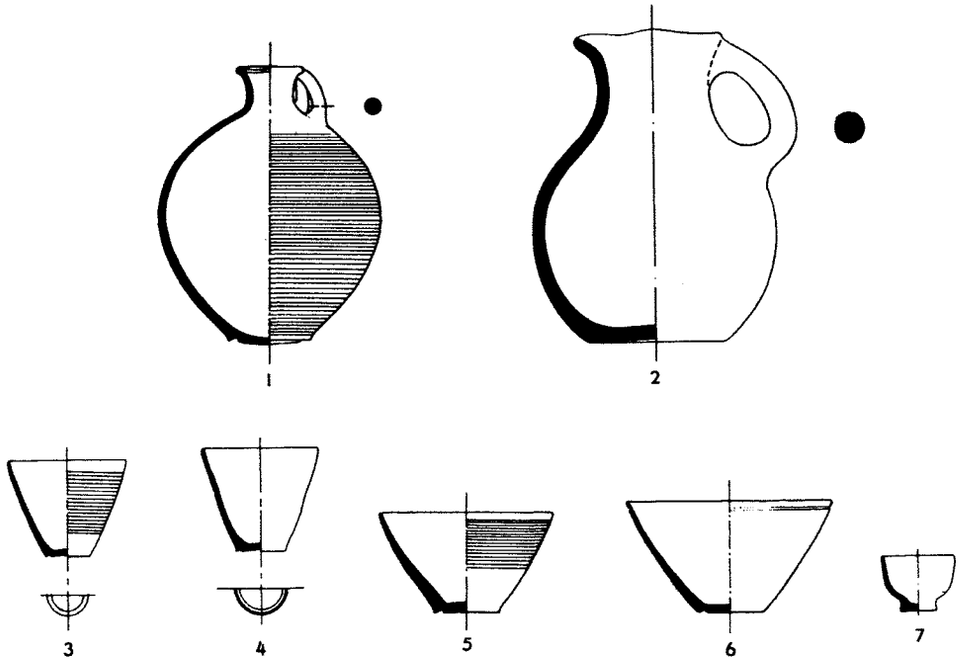


FIG. 315.—PHASE I. SIMPLE WARE. SCALE, 1:5

base (Fig. 315:4) are probably restricted almost entirely to Phase I, but there are not enough examples available to insure this proposition. There is one such example in Phase J as well as examples with somewhat heavier wall and flat base (Fig. 338:1–2), and plain flat-based examples do occur in Phase I (Fig. 313:1). Figure 313:4 shows a large and unusual truncated conical cup.

There are also both plain and corrugated examples of more hemispherical cups (Figs. 313:5–7, 315:7); our distinction between this group and the cup-sized examples (Fig. 312: 1–5) of the rather simple bowls mentioned above is based on the slightly greater wall thickness of the bowls. A type with plain curved side and flat base is represented by one complete cup in Phase I (T3693) but is more common in Phase J (see p. 438 and Fig. 338:4).

Goblet sherds (Fig. 313:8–12, Pl. 41:13) are very rare on the earliest Phase I floors but become common toward the end of the phase. Figure 313:8 (cf. Fig. 362:2) is typical, and Nos. 9–12 are variants. All the rim sherds have surface corrugation. Our impression is that, while the goblet profile gets a good start by the end of Phase I, its *floruit* is Phase J (see Fig. 338), when it predominates over the truncated conical cup.

The bases of the larger vessels show almost as much variety as do those of the smaller ones. Plain flat bases (Fig. 313:13–15) are smoothed, string-cut, or ash-laid. The bases of large jars such as those shown on Figure 314:9–10 are ash-laid. The base of a complete bowl (Fig. 314:1) is smoothed, but other bowls and a complete jar (Fig. 314:8) have string-cut bases. A smoothed, rather convex, flat base (Fig. 313:16) is unique and probably accidental. Ring bases (Figs. 313:17–18, 314:2) cover some range in diameters. Incised ring bases (Figs. 313: 19–20, 24–29 and 314:6–7, Pl. 42:2–4) are common on smaller vessels but may occur on larger jars. Figure 314:6–7 show smaller vessels whose bases are adaptations of the technique of incising out a band of clay to effect a sort of base lip (e.g. Pl. 87:5; see below). Pedestal bases occur (Fig. 313:21–23), but for exactly which profiles is not clear from our samplings.

The full variety of truncated conical cup and goblet bases for Phases I–J as a whole is presented in Figure 340 (see p. 440). The variety available in the Phase I samplings is shown in Figure 313:24–35. The ring bases characteristic of the truncated conical cups (e.g. Fig.

313:24–27) obviously result from the use of some sort of incising tool (see Pl. 42:4). Presumably the cup was returned (upside down) to the wheel for the purpose after it had been thrown. One example (Pl. 42:3) seems to show that the base was string-cut from the clay matrix and smoothed before the incision was effected. Figure 315:3 represents a perfect example of this type of base. There are cases with incision and a sort of rolled base lip (Fig. 313:28–29; cf. Fig. 314:6–7), as well as simple flat or slightly concave flat bases (Fig. 313:30–32). Low pedestal bases (Fig. 313:33) and carefully incised and modeled goblet bases (Fig. 313:34–35, Pl. 42:5) are exceptional and come only at the end of Phase I; in Phase J they are usual.

No cylindrical spouts appeared in Phase I, but it seems reasonable to assume that they would occur in a larger sampling, since there is one in the Second Mixed Range (Fig. 361:5) as also in the Smeared-Wash Ware of Phase I (Fig. 321:9). There are ledge handles on bowls (Fig. 312:18), but handles are predominantly loops of almost perfectly circular section (Figs. 312: 26, 28, 34–35, 39–41, 47 and 313:36–37). Occasionally they have added blobs or rolls of clay (Figs. 312:40–41, 313:36). A complete bottle (Fig. 315:1, Pl. 40:10) and several unillustrated sherds indicate circumflex handles. Several sherds (Fig. 312:34–35, 39–41) have a shallow depression on the inner surface where the handle joins.

The various types of decoration are noted on page 408.

Reserved-Slip Ware

(0–4% of total selected sherd bulk)

The bulk of the sherds in this small lot seem to be of Simple Ware clay. One sherd (Fig. 316:1) looks more like the chaff-tempered clay used for some of the Phase H Reserved-Slip Ware (see p. 354), and another (Fig. 316:2) is of a clay[5] which looks somewhat more like that of the Brittle Orange Ware. Several other examples, while megascopically quite similar to the Simple Ware clay, are of a dull grayish orange-brown or buff color. All but three have a grayish-buff or whitish-buff reserved slip.

The illustrations (Fig. 316 and Pl. 42:10–17; see also Pl. 88:1, 3–4) are arranged to demonstrate the proposition that corrugation may be the result of readaptation of the old reserved-slip technique. While several cases of oblique or vertical reserving from neck bands occur (Fig. 316:1), the technique is here used predominantly in the horizontal sense (see Pl. 88:1). At least one case (which can be oriented with confidence) of horizontal reserving appeared in Phase H (see p. 355 and Fig. 273:6). In Phase I the reserved bands vary from finger width (Fig. 316:1–4) to very narrow closely set bands (Fig. 316:5–8) which must have been done with a tool. The sherds with tooled reserving actually show some relief, as in corrugation; the three unslipped cases (Fig. 316:9–11) show the same feature, which is what we call "corrugation" in connection with the Simple Ware (see p. 408). This development suggests the continuation of a tradition from Phase G (see p. 276) into Phase I (cf. p. 406, n. 2).

Two sherds with a sort of reserved-slip effect are described with the unclassified sherds (see p. 417 and Fig. 320).

Painted Simple Ware

(0–4% of total selected sherd bulk)

This group is of Simple Ware clay, but there are no gritless examples (see p. 407). The color range of both paste and surface (see Pl. 88:6) is the same as that of the Simple Ware, save that the extreme light shade (light yellow-buff) does not appear in the sampling. The paint is apparently an ocherous solution, somewhat variable in thickness and nonpenetrating. It is dull and ranges from light red-orange to black, a deep brownish-orange shade being most usual.

[5] A Second Mixed Range sherd (Fig. 316:4) of the same clay is shown here for comparative purposes.

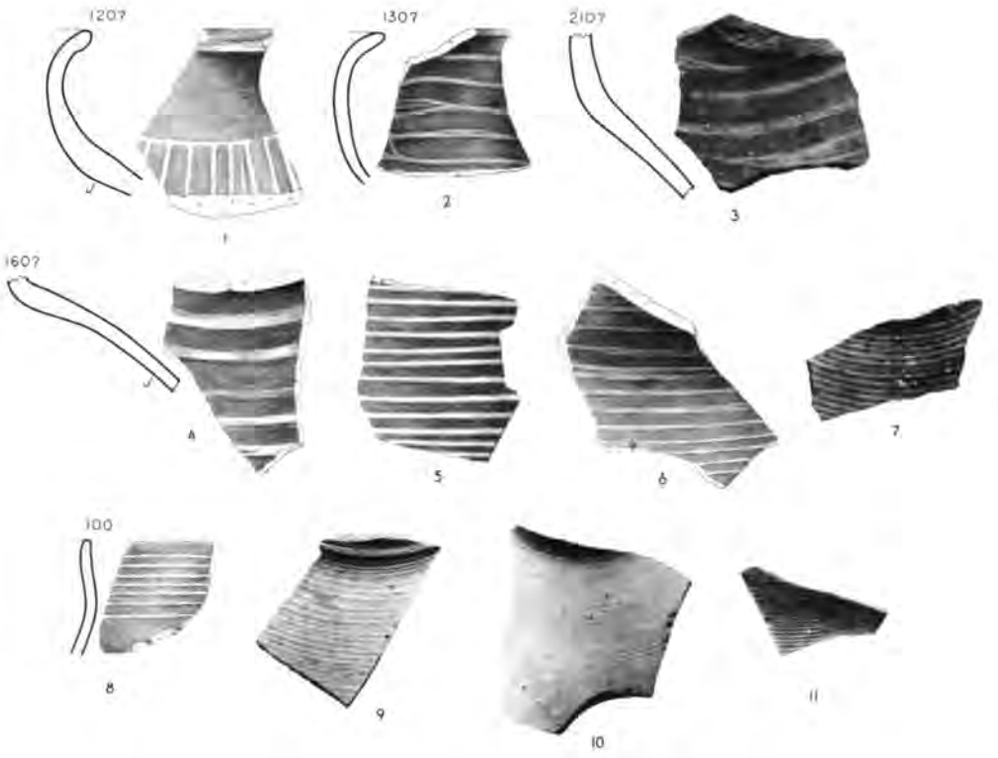


FIG. 316.—PHASE I. RESERVED-SLIP WARE. SCALE, 1:3

This group technically does not differ from the Simple Ware. Since the painted ware tends to consist of goblets and other small vessels, the pottery is thin-walled and therefore finely textured. With a fine texture the clay body is more likely to mature and show a yellow-green color at slightly lower temperatures than with a coarser texture. The paint is of a ferruginous type and varies in color with the nature of the furnace atmosphere (reducing or oxidizing) during the final stages of the firing.—MATSON.

The profiles selected for painting seem to be mainly jars, bottles, pitchers, and goblets. The only bowl sherd (Fig. 317:1) does not represent a normal profile. The other rim sherds (Fig. 317:2–5) indicate profiles which are normal in the Simple Ware series; the only unusual features of the complete and reconstructible vessels (Fig. 318) are the rounded base of No. 2 (Pl. 43:1) and the vertically pierced lugs of No. 5 (Pl. 43:8).[6] One base fragment (Fig. 317:7) is peculiar in that its plan is a portion of an ellipse, not a circle.

The painted motifs (Figs. 317–18 and Pls. 43:1, 7–8, 44:6, 88:6) include simple bands, vertical lines, and crosshatching in simple triangles, diamonds, and panels. Groups of wavy vertical lines also seem common. Most remarkable are the beginning, apparently, of the habit of supplying pitchers with "eyes" (Fig. 317:5, Pl. 44:6) and a fairly complicated metopic arrangement on a goblet (Fig. 318:5, Pl. 43:8).

Two goblet sherds with white-on-black decoration are described with the unclassified sherds (see Fig. 321 and p. 417).

SMEARED-WASH WARE

(3–8% of total selected sherd bulk)

The profiles of this group conform in general to those of the Simple Ware, but the clay (or clays) and the peculiar surface treatment are different. Some details, for example beaded lips

[6] An incomplete jar of the Second Mixed Range (Fig. 364:4) has the same type of vertically pierced lugs. It was found in Chatal Hüyük V 16 at the same general level that Fig. 318:5 was found in W 16, but early enough in the operation so that talus material was partially involved.

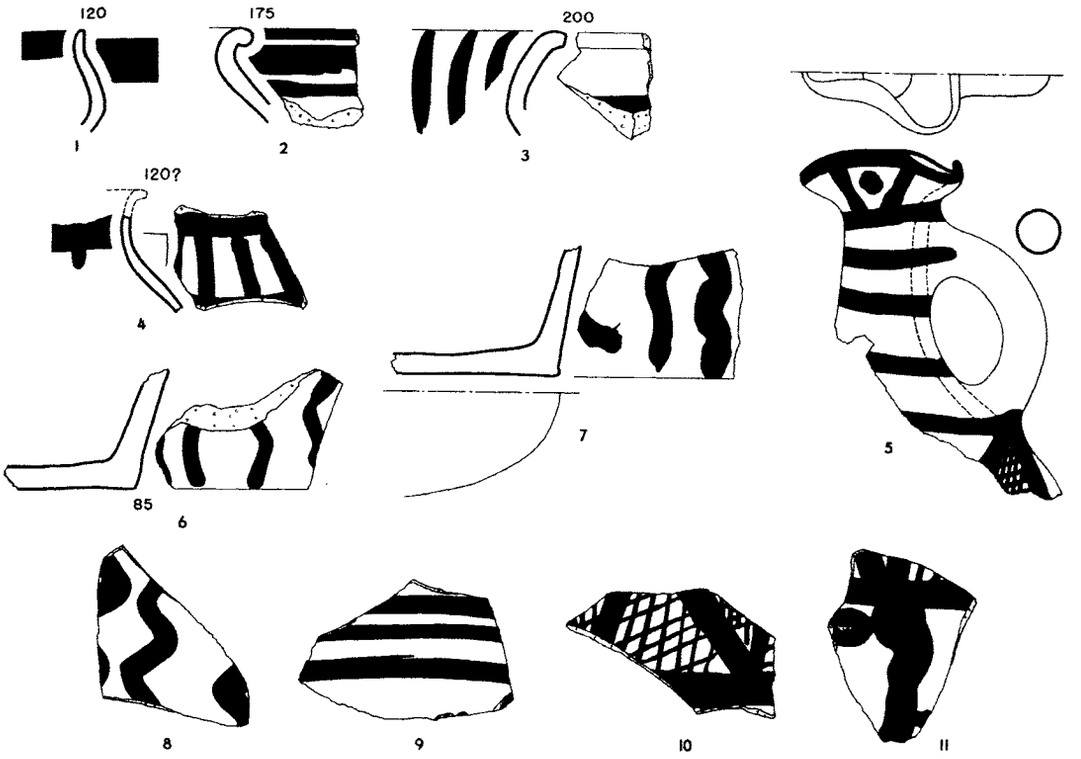


FIG. 317.—PHASE I. PAINTED SIMPLE WARE. SCALE, 1:3

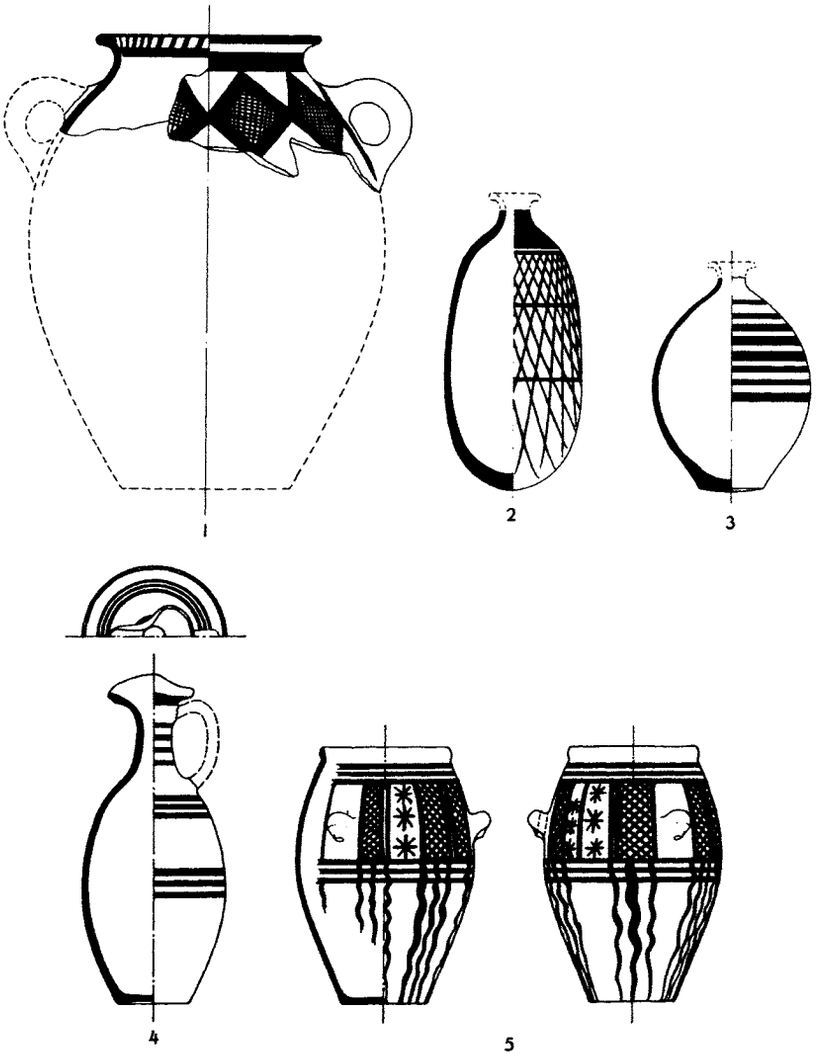


FIG. 318.—PHASE I. PAINTED SIMPLE WARE .SCALE, 1:5

(cf. Fig. 319:19 with Fig. 310:8), grooved ovoid handles (cf. Fig. 319:28 with Fig. 310:16), and the general character of the jar profiles, as well as the attempt to achieve an orange-brown surface color, recall the Brittle Orange Ware.[7] By full Phase J, the Smeared-Wash Ware has almost entirely replaced the Brittle Orange Ware and is surpassed in proportion of sherd bulk only by the Simple Ware, to whose profile series it generally conforms.

The smaller vessels and the bowls were wheelmade; so also were the rims of jars and probably the bases, but the body walls of the larger jars tend to be rather irregular in thickness and show many finger marks, so that they would ordinarily be classed as handmade. The firing was apparently medium to light; up to 100% of the core may be dark, but normally *ca.* 65% is dark.[8] The well fired paste ranges from light orange-buff (i.e., normal Simple Ware coloration) to dark brown or black; the normal color is full orange-buff or orange-brown buff. Megascopically the clay seems variable. In general it seems to contain some fine, or some very fine, sand—perhaps as it occurred in nature. Larger inclusions sometimes appear.[9] The fabric seems fairly hard and is granular and rather dense; the fracture is usually straight and quite smooth.

The surface color ranges from light orange-brown buff (brick color) to dark red-orange brown or black but is normally dull red-orange brown (see Pl. 88:5; see also Pl. 89:3, 5, 7, of Second Mixed Range). About 37% of the sampling consists of well fired cases which turned out to be a sort of dull olive green. The surfaces are smooth and fairly even, save the insides of jars, and generally well preserved; they are quite dull unless burnished. Presumably most of the surfaces are wet-smoothed. Some 80% of the sherds are covered with a thin (probably ocherous) solution, which accounts for their darker red-orange surface coloration. This wash (for it seems to have very little body) is sometimes purposely smeared (see Figs. 345:2 and 347:8–9, of Phase J), but more often the smearing seems simply to result from the wash being quickly daubed on and sometimes handled while wet. There is often considerable variation in surface color, depending on the amount of smearing as well as on "hot spots" in the kilns. About 20% of the sherds show no appreciable trace of the wash, but their orange-brown buff surface color is within the normal range. Megascopically their clay seems to conform to that described above, but, as it is quite variable, the apparent conformity is probably not very significant.

Approximately two-thirds of the bowl sherds (especially the larger examples) and perhaps one-third of the jars have some burnish. The open bowls tend to be burnished on the inside, radially or radially and chordally, but the burnish is seldom closed. The burnished jars usually show a rather heavy open vertical pattern (see Pl. 45:1, of Phase J), which is not utilitarian. A Second Mixed Range jar (Fig. 367:4) indicates that the burnish strokes were sometimes slightly oblique rather than vertical, and a Phase I sherd (Pl. 47:2) shows horizontal strokes.

[7] It may be that the Smeared-Wash Ware actually began as a cheap imitation of the Brittle Orange Ware, which almost disappears by the end of Phase I. The profiles available in the Smeared-Wash Ware can all be found in either the Brittle Orange Ware or the Simple Ware. It may also be noted that a possibly intrusive sherd of Smeared-Wash Ware occurs in Phase G (see p. 293 and Fig. 233:1) and that the heavy and open vertical burnish which is not unusual in Smeared-Wash Ware also occurs in Phase H Metallic Ware (see p. 370 and Fig. 288).

[8] About ½ of the sherds have orange-buff to orange-brown buff core; *ca.* ¼ have gray core with orange-buff or orange-brown buff near the surface; and *ca.* ¼ have quite black core with orange-buff to orange-brown buff near the surface. A black core throughout is rare.

[9] Some 118 sherds from Phase I and Phase J contexts show the following variations in the clay:

10 examples with no sand or with a very fine sand base plus medium-heavy concentration of larger inclusions
9 examples with fine sand base plus medium-heavy concentration of larger inclusions
19 examples with fine sand base plus other fine inclusions in sparse to medium concentration
38 examples with fine sand base plus medium-sized inclusions in sparse to medium concentration
16 examples with fine sand base plus coarse inclusions in sparse concentration
26 examples with fine sand base plus very coarse inclusions in sparse concentration.

There are two major groups in this ware. One is made of the *serpentine* type paste and has thin reddish-brown to black paint brushed onto the exterior surfaces. The second group is made of the *actinolite* clay, which is otherwise encountered in the ᶜAmuq ceramic sequence only in the Phases A–B Dark-faced Burnished Ware from Judaidah. These sherds have a sandy feel and have either smeared-wash decoration or uniform dark brown to black surfacing; some pieces are slipped or burnished. The first group occurs at both Taᶜyinat and Judaidah, while the second was found only at Taᶜyinat in the sampling examined. It would be possible to classify these two types as different wares technologically, but, since they agree in vessel shapes and were no doubt intended for the same general uses, such a breakdown would be an obscuring refinement of the classification. A few imported sherds also occur. Probably two groups of potters were making the same ware from different materials. A more detailed discussion is reserved for the volume of technical studies.

There was an over-all tendency to use higher firing temperatures, for a larger percentage of the sherds in the *serpentine* type group have a yellow color. The excessively high temperatures which produced the yellow-green color in the Phase E painted wares (see p. 183) were not used, no doubt because the potters had now learned how to control their kilns better and perhaps had learned that very high temperatures were not needed and only led to greater warpage and cracking.—MATSON.

Simple bowls include shallow to deep forms with smooth subhemispherical and hemispherical profiles and plain lips (Fig. 319:1–4, Pl. 45:4). An upturned lip (Fig. 319:5) is exceptional. Deep bowls with slightly molded (Fig. 319:6–8) or channeled (Fig. 319:9) lips and larger bowls with splayed lips (Fig. 319:10–11, Pl. 46:1) are much less common in Phase I than in Phase J. Slightly incurving bowls (Fig. 319:12–13) also are rare in Phase I.

Rims of narrower-necked jars (Fig. 319:14–17, Pl. 46:8) follow the usual Simple Ware profiles, but jars with rather sharply flared collars (Fig. 319:18–21) seem more to resemble the Brittle Orange Ware jars (for complete examples of this type of profile see Fig. 345:1–2 and 5, of Phase J).

Bases are usually flat (Fig. 319:1, 22–26 and Pl. 47:6); they are ash-laid (Fig. 319:23, Pl. 47:6) or string-cut or smoothed and string-cut (Fig. 319:24–26). An exceptional case (Fig. 319:27) is apparently an incised ring base (see p. 412).

Secondary features include vertical-loop (Fig. 319:16) and circumflex-loop (Fig. 319:8, 13) handles with circular section, also grooved loop handles with ovoid section (Fig. 319:28). One sherd of a cylindrical spout appeared (Fig. 319:29).

Several jar sherds have raised V-sectioned bands (Fig. 319:30), as do some of the large Simple Ware jars (see p. 408).

UNCLASSIFIED SHERDS

Two sherds from Judaidah JK 3:6 are apparently from the same jar (Fig. 320, Pl. 42:19). They are of a rather soft dull orange-buff clay with many coarse white inclusions. A sort of reserved-slip effect is apparent, also a pair of incised wavy bands on the body sherd. The clay does not seem to conform to any of the usual ᶜAmuq clays (of this or any other phase), and the sherds are probably examples of what has been called "Scrabbled Ware" elsewhere.

Two goblet sherds (e.g. Fig. 321, Pl. 88:2) from the uppermost Phase I floor in Taᶜyinat T 4 have white-on-black decoration. There are no examples of this type in the Phase J sortings and only three or four bits from the Second Mixed Range. The clay looks like normal enough Simple Ware clay, but apparently it was purposely smoked or reduced to a dull metallic gray. The decoration consists of a closely set spiral, actually a reserving with a tool of a rather thin olive-whitish solution. In Phase J a white-on-black effect resulted from tooling through dark paint into light clay (see p. 443). The white-on-black effect is apparently an extension of the reserved-slip and corrugation tradition.

An incomplete jar (Fig. 322) is in a clay which is megascopically dissimilar to that of the

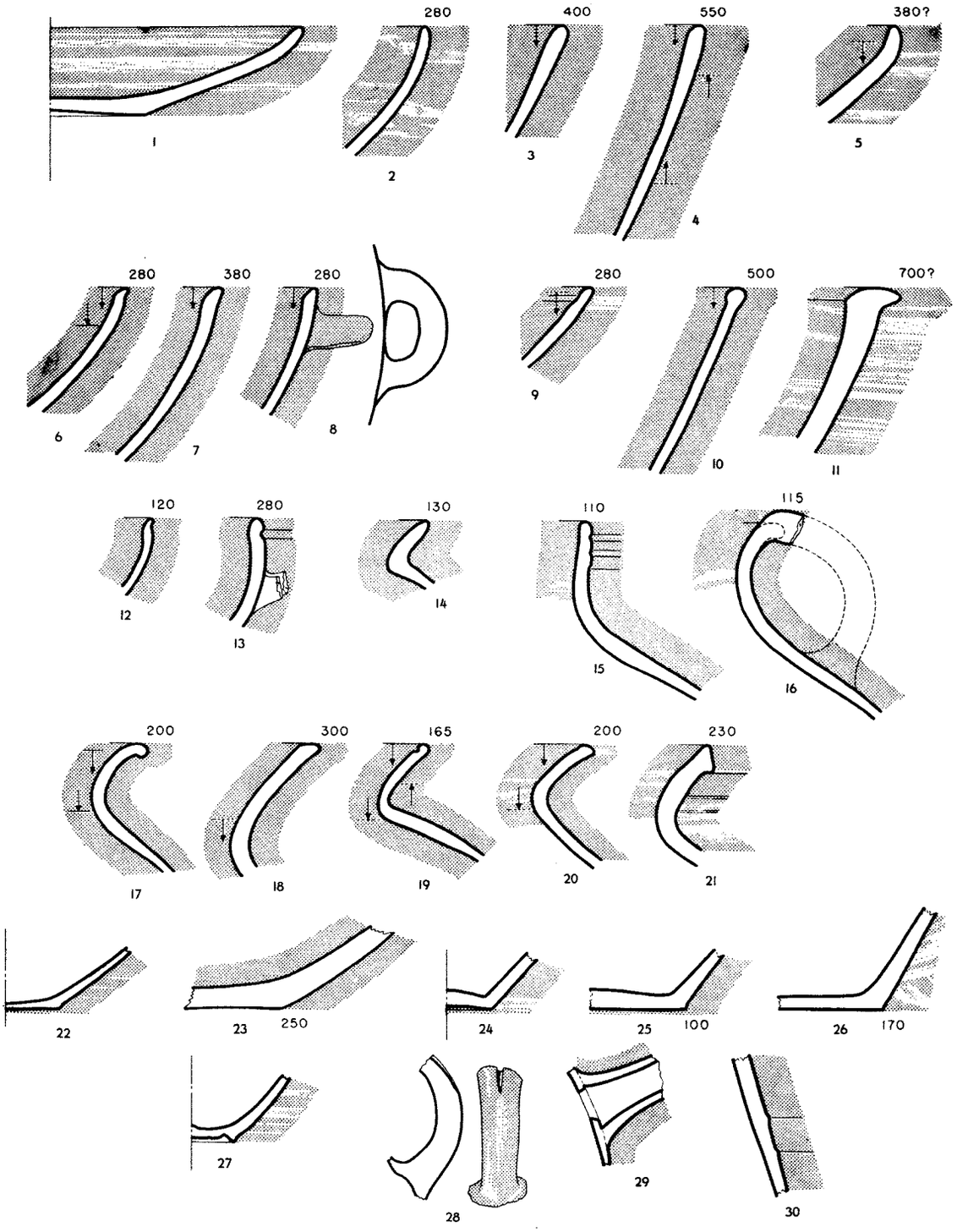


FIG. 319.—PHASE I. SMEARED-WASH WARE. SCALE, 1:3

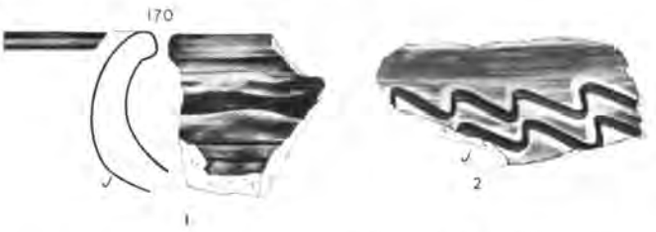


FIG. 320.—PHASE I. "SCRABBLED" WARE. SCALE, 1:3

FIG. 321.—PHASE I. WHITE-ON-BLACK GOBLET SHERD. SCALE, 1:3.

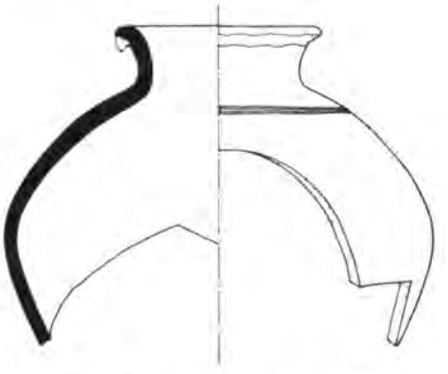


FIG. 322.—PHASE I. COMB-INCISED JAR (b2708). SCALE, 1:5

Simple Ware; it has a fairly heavy concentration of rather coarse white and varicolored sandy inclusions and probably some chaff temper. The light orange-buff paste is quite granular in appearance. The surface has a self-slip of light neutral buff to yellowish-green buff. The profile is not quite in the normal range of Simple Ware profiles; just how the bottom edge of the out-rolled lip terminated is uncertain. There is a band of comb-incision on the shoulder. This piece was found in Chatal Hüyük W 16:4 after the cut had been completely cleared of all apparent talus material. It would seem thus to be *in situ* in Phase I, but it is unique from the point of view of clay, profile, and comb-incision. This decorative technique commences rather tentatively in Phase J and is not otherwise known in Phase I.

BAKED-CLAY OBJECTS

Some fifty "andiron" fragments (see p. 400) were found, but only six small objects are accounted for.[10] Two of these, "human" figurines, appear megascopically to be of the new Phase I Simple Ware clay (see pp. 406 ff.). The others are of coarse orange-buff to smoked orange-buff clays which do not correspond directly to any of the more marked contemporary pot clays.

The "andiron" fragments (e.g. Figs. 290:9–10 and 12, 291 *B* 3, 307:21–22) differ in no essential way from those of Phase H (see pp. 372 f.).

There is one animal figurine (Fig. 323:1, Pl. 51:8), of the small bovine type which appears in Phase H. It is finger-smoothed but shows no signs of burnish.

One of the "human" figurines is of rather conical form (Fig. 323:2, Pl. 50:13). Two added pellets with deep impressions in their centers appear on either side of the nose, which is fragmentary. Added rolls of clay have short sharp impressions (possibly fingernail marks). A circular impression near the peak of the object may be an incomplete piercing intended for sus-

[10] Not including the head and forequarters of an animal figurine (b2581) from Chatal Hüyük W 16:4, which is registered but not catalogued.

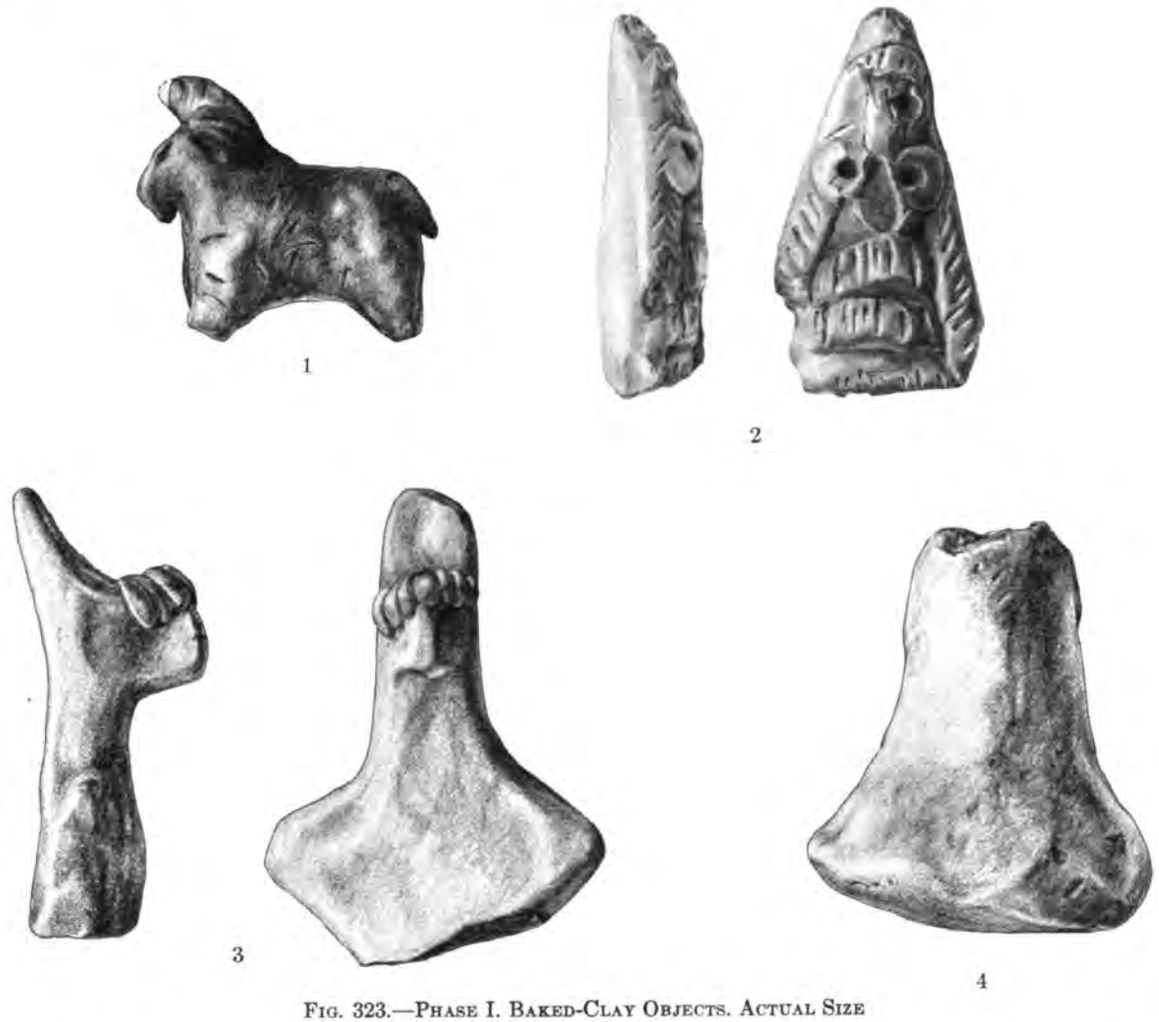


FIG. 323.—PHASE I. BAKED-CLAY OBJECTS. ACTUAL SIZE

pension. The second "human" figurine is the earliest ʿAmuq example with clear context of a fairly well known class with monstrous head. Broken off at about the waist, it has stubby arms, a beaked pinched-out nose, and a pinched comblike headdress (Fig. 323:3, Pl. 50:5). A row of little elongated pellets above the nose gives a banglike effect. No attempt to render breasts is apparent, so that the intended sex may not be guessed.

Two essentially identical pluglike objects (Fig. 323:4 and Pl. 48:13) are finger-molded. Their use is problematical, but possibly they formed cores for cloth used as jar stoppers.

Finally, there is a crude cylindrical bead (T1152).

METAL OBJECTS

Only nine metal objects are registered from Phase I. The seven which are available for analysis[11] are of copper-based metal and in very good condition, save for a pin with double-spiral head.

[11] The other two objects went to the Antioch Museum, unfortunately without being photographed or drawn. T3702, from a pit in Taʿyinat T 4:4, is listed as a bronze point, a term usually applied to reamers in the field. T3614, from Taʿyinat T 4:3, is listed as a silver earring. According to the brief description on a catalogue card, the earring is circular in cross section except for the flattened ends; these are more or less pointed and slightly spoon-shaped, overlapping each other slightly. The only dimension given for the earring is t. 1.5 mm.

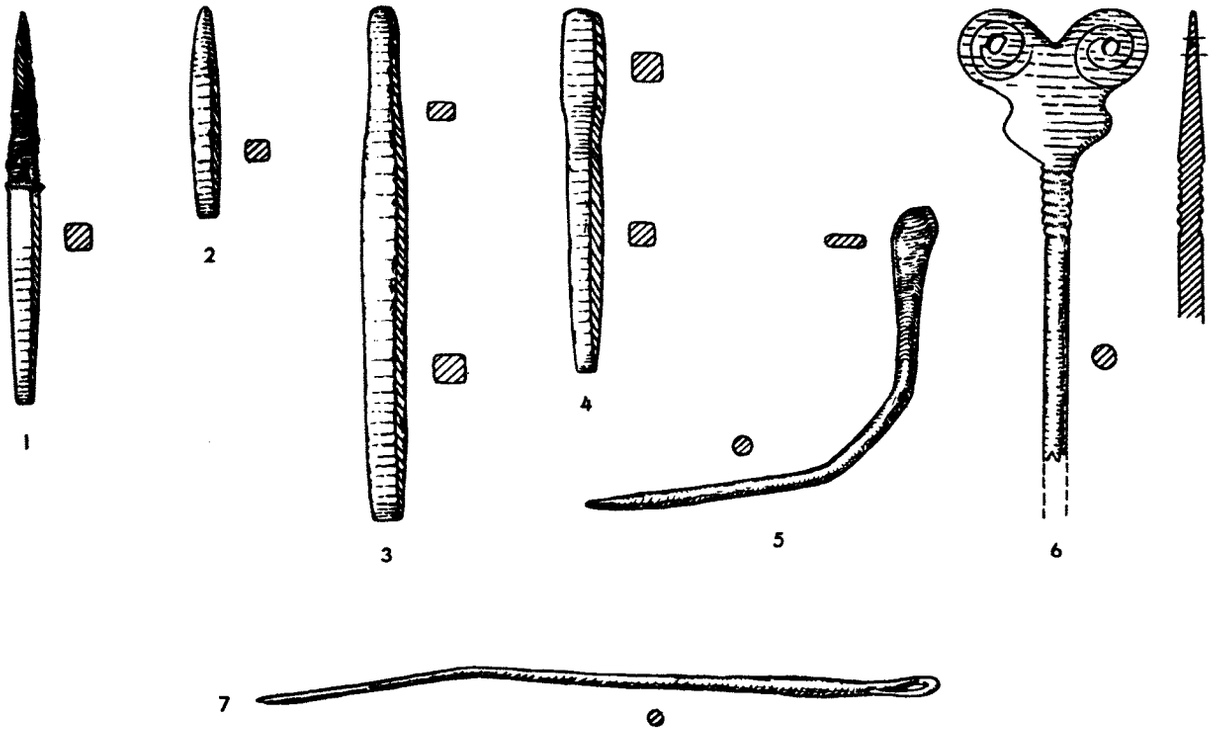


FIG. 324.—PHASE I. METAL OBJECTS. ACTUAL SIZE

Two of the four reamers are of the old type (Fig. 324:1–2, Pl. 52:3). One of these is interesting in that the pointed end shows the impressions of what must have been the haft and even the ghost of some kind of thread or fabric which was evidently wound about the metal to make it fit snuggly in the hole of the haft. The other two reamers are typologically somewhat different from those of the previous phases. One (Fig. 324:3, Pl. 52:2) is larger than usual and has a distinct chisel bit on both ends. One end is slightly thinner than the other as a result of a slight shoulder. The fourth reamer (Fig. 324:4, Pl. 52:4) is square in section throughout; the butt end is slightly thicker than the rest and shanklike.

Only two pins are available. One has a plain rounded head beaten into a flat ovoid (Fig. 324:5, Pl. 53:11). The second pin (Fig. 324:6, Pl. 53:14) is incomplete; the head, flattened by beating, suggests a pair of spirals rising out of a bud. Each spiral is indicated by a light spiriform groove incised in the metal and terminating in a small (d. *ca.* 1.5 mm.) elliptical hole. The shaft of the pin, just below the bud, is grooved horizontally.[12]

The final metal object available from Phase I is a needle (Fig. 324:7, Pl. 52:11). The eye is formed of the wirelike end, which is bent back into what seems to be a slot in the shaft. This is the earliest example of this type of eye; a somewhat clearer example appeared in Phase J (see p. 453).

Spectrographic analyses indicated concentrations of elements as follows:

REAMERS

T3602 Major: copper; strong: nickel; minor: arsenic, iron; other traces weak (Fig. 324:3, Pl. 52:2)
T3608 Major: copper; strong: tin; minor: antimony, arsenic, iron, nickel, silicon; other traces weak (Pl. 52:3)

[12] This badly oxidized pin largely disintegrated during cleaning, but sketches and measurements were made during the process and there is no doubt that the drawing is correct.

T3617 Major: copper; strong: tin; minor: arsenic; other traces weak (Pl. 52:4)
T3628 Major: copper, silicon; minor: arsenic, magnesium, tin; other traces weak

PINS

T3627 *Fragment with hole.* Major: copper, sodium, tin; minor: antimony, arsenic, lead, silicon; other traces weak. *Smaller fragment.* Major: copper, silicon, sodium, tin; minor: antimony, arsenic, lead, mercury, phosphorus; other traces weak (Fig. 324:6, Pl. 53:14)
T3703 Major: copper; minor: arsenic, calcium, iron, silicon; other traces weak (Fig. 324:5, Pl. 53:11)

NEEDLE

T3709 Major: copper; strong: iron; minor: arsenic, chromium, nickel, silicon; other traces weak (Fig. 324:7, Pl. 52:11)

FLAKED STONE OBJECTS

The Phase I operations yielded very few flints, all from Taʿyinat save one blade section from Judaidah. No obsidian artifacts were found. The tool types are extremely limited, either sickle blades or plain blade sections that were probably intended to serve as sickle blades. All are made on sections of Cananean blades (see p. 534), a factor which links the flint work of Phase I to that of Phases F–H.

Sickle Blades

As stated above, all are made on Cananean blade sections (Fig. 325). Sixteen examples are on middle sections, and one example is on a bulbar tip. None is as broad or as long as some of the larger examples from Phases G and H. In fact, somewhat shorter sickle blades seem to be most favored.[13] The largest example (Fig. 325:3) measures 105 × 29 × 7 mm., the smallest 27 × 20 × 8 mm., and the average is 60 × 25 × 7 mm. The widths vary from 20 to 32 mm., with no one width favored. Nine examples have sheen along both edges, eight along one edge only.

There is much retouch in addition to that used for denticulation. The retouch is extremely rough. Four sickle blades are steeply retouched at one end, two at both ends. In some cases the end retouch was done to reduce the thickness of the bulbar tip or to remove some of the end of a blade.[14] Four sickle blades are steeply retouched along the back (as in Fig. 325:4, left edge) and on one or both of the ends. In these examples the width was considerably reduced by the rough chipping. In one example (Fig. 325:3) the steep retouch on the back is only partial, forming a crude tang at each end. It seems likely that this sickle blade was hafted in the usual fashion (and not as a knife blade), however, for the sheen extends the entire length of the denticulated edge. An example which has steep retouch forming a tang at one end (Fig. 325:5) may well have been hafted in knife-blade fashion, for the sheen on both edges stops at the beginning of the tang.

The denticulation is varied. Two sickle blades are not retouched but are slightly denticulated by use. In five examples the denticulation is formed by nibbling retouch, fairly neat in a few cases. The denticulation in these is pronounced and uneven but closely spaced (as in Fig. 325:1–2). In the rest of the examples the retouch along the working edge is flat and deep, with a tendency to be quite steep as it extends back into the thicker part of the blade. For the most part the denticulation thus formed tends to be fairly similar to the nibbling retouch. In a few examples the teeth are larger and perhaps a bit more widely spaced (as in Fig. 325:5, right edge). In two examples the edge is quite jagged (Fig. 325:3).

[13] One example in the 100's, 2 in the 90's, 1 in the 70's, 1 in the 60's, 6 in the 50's, 5 in the 40's, 1 in the 20's.

[14] Large Cananean blades are apt to curl over slightly, toward the bulbar face, at the ends (see side views on Pl. 66:1–2).

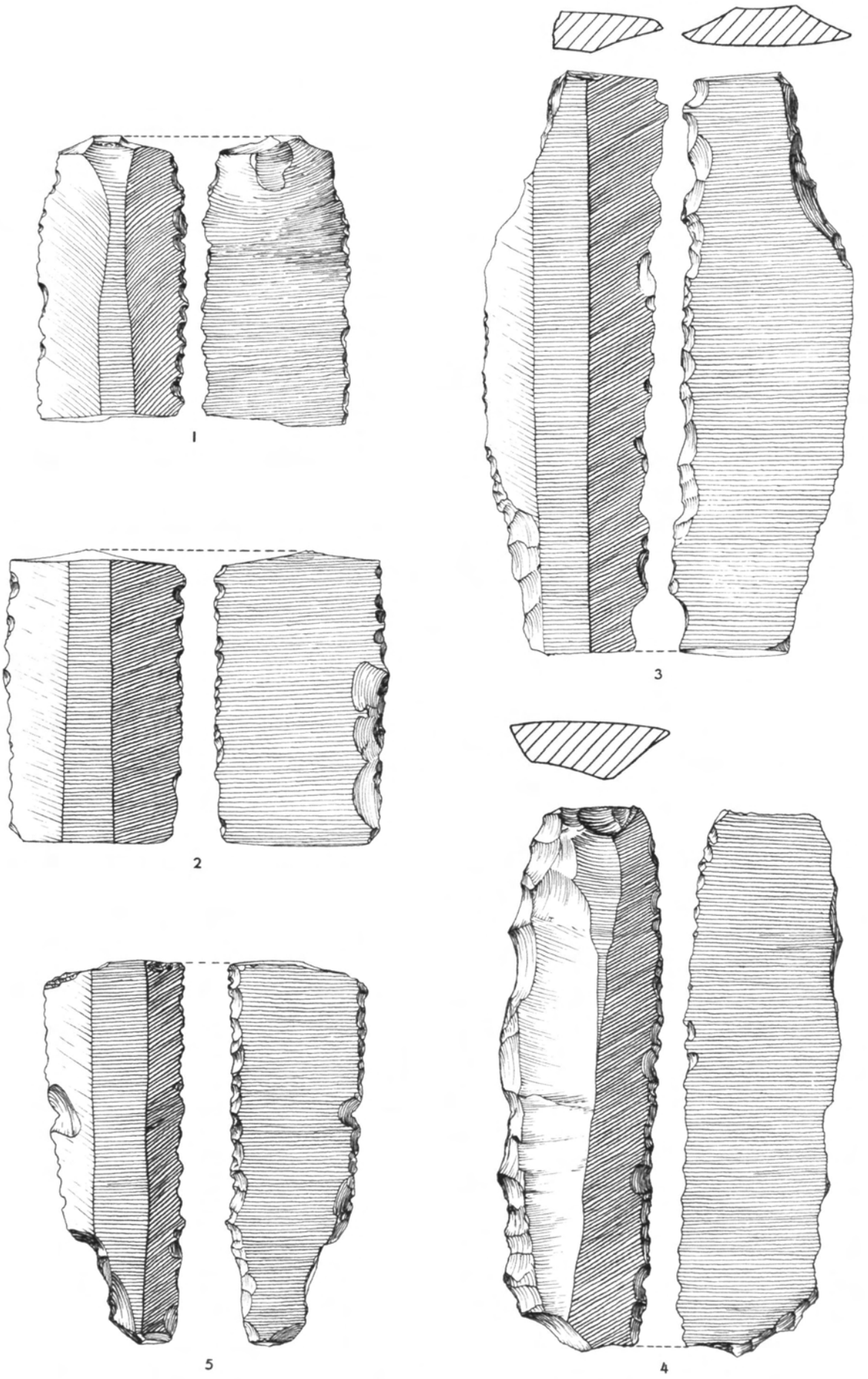


Fig. 325.—Phase I. Flint Sickle Blades Made on Cananean Blade Sections. Actual Size

Blade Sections

Of the seven examples one is a bulbar tip, four are middle sections, and two are end sections (e.g. Pl. 66:2). All are snapped from Cananean blades. The largest measures 62 × 30 × 11 mm., the smallest 38 × 23 × 6 mm., and the average is 48 × 25 × 7 mm. Almost all show a little use along the edges. A few are nibbled, and one has steep rough retouch at one end.

Flake

This is a small flake (45 × 21 × 6 mm.), more or less trapezoidal in plan, with cortex on part of the upper face. It has a large plain striking platform and is undoubtedly a by-product of the preparation of a Cananean core. One of the longer edges shows signs of use.

GROUND STONE OBJECTS

Celt

The only celt (Fig. 326:1), of diabase, is a relatively small tool with axlike profile. The butt is rounded off but somewhat rough, with some of the higher areas showing polish from use. The remaining surfaces are smoothly ground and well polished. Both faces have poorly defined asymmetrical beveling more or less parallel to the working edge. The working edge is sharp and shows little evidence of hard usage, with only a few tiny nicks here and there.

Whorl

The only whorl (Pl. 69:10) is somewhat crudely shaped, with elliptical transverse section (d. 47, t. 15 mm).

Unclassified Object

This perforated limestone object (Fig. 326:2, Pl. 68:12) from its slightly warped appearance would seem to be made from a flat pebble that required comparatively little working. The surfaces, although slightly uneven in spots, are smooth and show a little polish. The object is light but seems too large for a pendant. It may be a palette, for the slightly concave upper surface (illustrated), which is the more warped, would have been useful for grinding.

Beads

In a group of nearly three hundred beads from Chatal Hüyük W 16:4 (b2651) all but eight (see p. 426) are of stone, and there are only four types. About 270 are made of cliachite (a white stone) and are cylindrical. These seem to be of two sizes: *ca.* 150 (e.g. Fig. 326:3) are extremely small (average size: d. 2, l. 1 mm.), and 120 (e.g. Fig. 326:4) are somewhat larger (average size: d. 3, l. 2.5 mm.). The perforations are relatively small, averaging considerably less than 1 mm. in diameter. These beads show a tendency toward mass-production methods. A mass of material was carefully shaped into a long cylinder which was well polished, probably perforated,[15] and then cut into small segments. An attempt was apparently made to cut the segments at right angles to the axis of the cylinder; but many cuts were made obliquely. Thus many of the beads are trapezoidal in longitudinal section. The ends of the beads show no working after severance from the long cylinder; some ends were smoothly severed, and others are partially smooth and partially rough. Three beads of soft red rock (d. 3, l. 2 mm.) are similar in shape to No. 4 and have very small perforations. They were probably made by the

[15] It seems likely that the long cylinder was perforated before it was cut into segments, for none of the beads examined show any broadening of the perforation (an indispensable sign of initial boring) at either end. Furthermore, many of the beads are so tiny that it would have been almost impossible to grasp them firmly enough to make the perforation. The main question is "What would have been small enough and strong enough to make such a small bore?" Our only suggestion is a thorn, used with a good abrasive.

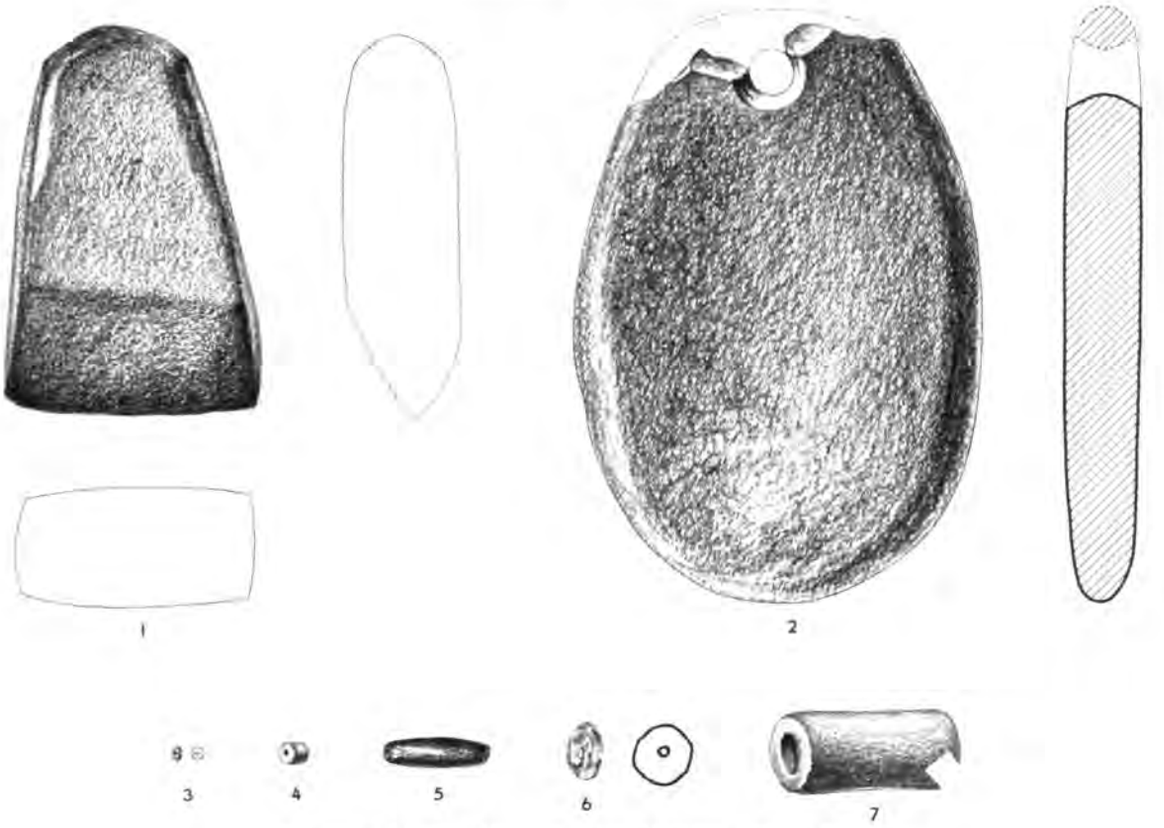


FIG. 326.—PHASE I. GROUND STONE OBJECTS. ACTUAL SIZE

same method, for their ends are not perfectly parallel and do not seem to have been smoothed by grinding and polishing. Eleven beads of the same soft red rock (average size: d. 4, l. 11 mm.) are barrel-like (Fig. 326:5). At least one end of each bead is oblique. In some cases the oblique end is rough whereas the other end is smoothed and polished. This leads one to think that a long cylinder was cut into more or less equal portions, which were then worked and perforated individually. There is a slight broadening of the perforation at one or both of the ends.

Only two other beads were found in Phase I context. A flat disklike bead of quartz (Fig. 326:6) has a funnel-shaped depression at each end of the perforation. A long cylinder of travertine (Fig. 326:7) is slightly rough and irregular in shape. The ends are rounded off. The perforation is fairly large, but decreases in size from one end of the bead to the other.

CYLINDER SEAL

The only seal from Phase I (Fig. 327) was found in a Red-Black Burnished Ware jar (see p. 426). It is perforated along the axis and has a deeply cut representational design.[16] A lion crosses a human-headed bull with horns and a triangular beard. Both creatures are seen in full face. Their bodies and the lion's mane are hatched. A vertical wavy line, possibly a tree, separates the crossed figures from a beardless bald-headed spectator wearing a kilt. One hand is placed on the crescentic handle of a massive dagger.

[16] Published by Frankfort, *Cylinder Seals*, Pl. XXXIX *b* and pp. 225, 232, 234, who considers it one of the "bad imitations of Mesopotamian designs."

FIG. 327.—PHASE I. STONE CYLINDER SEAL (b2741). ACTUAL SIZE

STONE IDENTIFICATIONS

CELT

T3603 diabase (Fig. 326:1)

WHORL

b2661 not analyzed (Pl. 69:10)

UNCLASSIFIED OBJECT

b2716 gray limestone (Fig. 326:2, Pl. 68:12)

BEADS

b2651[17] *ca.* 270 cliachite, n > 1.568
Fig. 326:3 and *ca.* 149 others of same type
Fig. 326:4 and 119 others of same type
14 weathered soft red rock; not identified
3 like Fig. 326:4
Fig. 326:5 and 10 others of same type
x624 travertine (Fig. 326:7)
x759 quartz (Fig. 326:6)

CYLINDER SEAL

b2741 not analyzed (Fig. 327)

WORKED BONE OBJECTS

The two worked bone objects are both on metapodials. One (Fig. 328:1) is an awl with some of the articular surface remaining. It does not quite fall into the splinter-awl class, for one edge is rounded off to aid in providing a good grasp. The point itself is unusually slender and sharp; it is carefully ground and highly polished. The rest of the surface (excluding the butt) shows a slight polish. The head end of an incomplete pin (Fig. 328:2) is rounded and carefully ground and polished. No trace of the articular surface remains. The under surface, especially toward the head end, preserves traces of the original bone grooving.

FAYENCE BEADS

Eleven fayence beads were found. The glaze still adheres to most of the examples and varies from bluish white to pale blue-green. Eight beads are from the group of *ca.* 300 (b2651; see p. 428). One of these is disklike (Fig. 329:1), and the other seven (e.g. Fig. 329:2, Pl. 78:4)

[17] Group of *ca.* 300 beads (see p. 428).

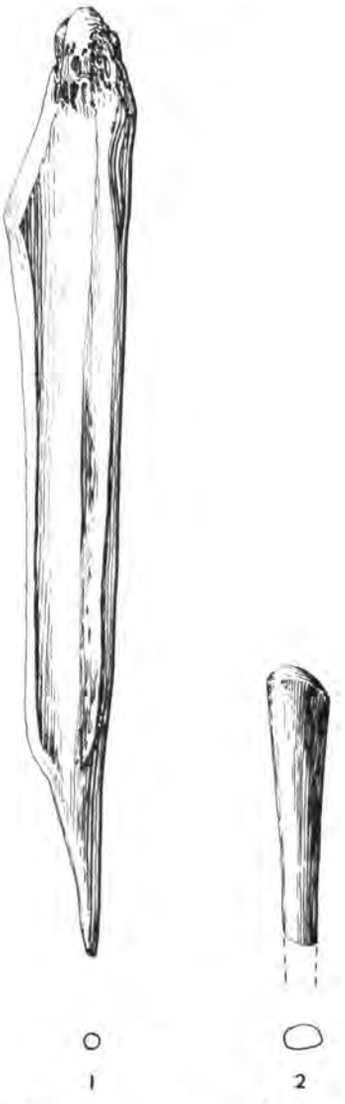


FIG. 328.—PHASE I. WORKED BONE OBJECTS. ACTUAL SIZE

FIG. 329.—PHASE I. FAYENCE BEADS. ACTUAL SIZE

are somewhat irregularly shaped but more or less globular (average size: d. 7, l. 5 mm.). One was sent to Matson for examination (see p. 394). A smooth ringlike bead with circular section has a slight groove (l. *ca.* 7 mm.) where the two ends join (Fig. 329:3, Pl. 78:5). The rough edges in the same area suggest an original appendage and therefore a pendant. Finally, there are two fairly regularly shaped segmented beads (Fig. 329:4–5 and Pl. 78:7, 6), one with a few surface irregularities (Fig. 329:4).

CACHES

On the lower floor of Chatal Hüyük V 16 was a large coarse Red-Black Burnished Ware jar (Fig. 305:5) which contained the cylinder seal (Fig. 327).

A group of *ca.* 300 beads (b2651; e.g. Figs. 326:3–5, 329:1–2) from Chatal Hüyük W 16:4 gave no assurance of the original arrangement in a "string."

On floor 3 of Chatal Hüyük W 16 there was a group of pots (W 16:3/1) in loose association, eight of Simple Ware (e169–70, e172–77; e.g. Figs. 314:3 and 315:7) and two of Painted Simple Ware (Fig. 318:4–5).

On floor 5 of Taʿyinat T 4 there was a group of pots (T 4:5/1) in no apparently meaningful arrangement: nine of Red-Black Burnished Ware (T3721–29; e.g. Figs. 305:4, 8 and 306:1, 3, 4), a cooking pot (Fig. 309:5), and one of Simple Ware (Fig. 315:2).

NONARTIFACTUAL MATERIALS

Flora

Fibers (b2622, b2660) from some monocotyledonous plant, with epidermal cells adhering. On comparison with fibers of the date palm (*Phoenix dactylifera* L.) they were found to match exactly in both fiber structure and epidermal cells.

Vertebrata

Wild: deer.

Domestic: pig; sheep (or goat).

XII

PHASE J

INTRODUCTION

PHASE J was encountered in a regular stratified sense, with architecture and consistent materials, only on Taʿyinat—in T 4:1, T 8:4–3, and T 13 (see pp. 13 f.). The greatest depth of deposit was 1.7 m.; the exposures totaled 134.0 sq. m. in area and were well in from the mound edge.

Phase J ceramic types occurred on the Second Mixed Range floors of Chatal Hüyük W 16 (see p. 5) and Judaidah TT 20 (see p. 10), but our description of the Phase J pottery is based entirely on the Taʿyinat operations.

Phase J is defined as beginning with the disappearance of the brilliant Red-Black Burnished Ware and ending with the disappearance of certain features and minor wares which are characteristic of the J assemblage in so far as we know it (see p. 431). The specific nature of the end of Phase J, and of the beginning of Phase K (not treated in this volume), was not fully evidenced in our exposures. Phase K was encountered mainly in Judaidah TT 20, in the steps where the stratigraphy was most ill-behaved. Since all of Tell ʿAtshanah is later than Phase J, it does not reveal the full nature of the transition.

The three flints that are available continue the industry of Phases F–I. There is no doubt that by this time stone is no longer a favored material for various categories of utilitarian items. Nevertheless, the ridiculously small number of stone objects available from our exposures cannot be taken at full relative value.

ARCHITECTURE

The fragments of buildings exposed in the Taʿyinat operations seemed to be of domestic type, although the scale of construction evidenced in the uppermost floor of T 13 indicated a rather pretentious structure.

All the *libn* walls were well executed; in T 8:3 and T 13:1 they were well over one brick's width in thickness. We did not expose examples of the more elaborate types of accessory features known in Phase H and probably in Phase I, but there were clay benches in T 8:4 and a basin-like depression in T 13:2. The latter was a simple conical hole, not marl-lined and fired (cf. p. 346).

Taʿyinat T 4:1 (see Fig. 11) pertained to an area with no trace of a structure in our exposure.

In T 8:4 were well built *libn* walls of a portion of a building (Fig. 330). A fragmentary bit of wall in the southeast corner of the cut seemed to indicate a narrow room. A doorway led out to the north into a space which contained five shallow pits. A wall projected northward from the wall with the doorway, and the corner thus formed was interesting because of its revetting pier of *libn*, with a *libn* bench on either side. The plan of T 8:3 indicates one whole room, and slightly more, of a well built *libn* structure. Two pits appeared in the area exposed.

In T 13 the area worked below floor 2 was very restricted, and a third floor was not actually reached. We did, however, encounter a fairly deep pit which proceeded from a level lower than that of floor 2 (see Fig. 331, section). The walls of the building which pertained to floor 2 were only one brick's width in thickness but seemed to indicate a fairly complex plan (Fig. 331). The conical depression mentioned above was in the floor of an alcove off a larger room or court.

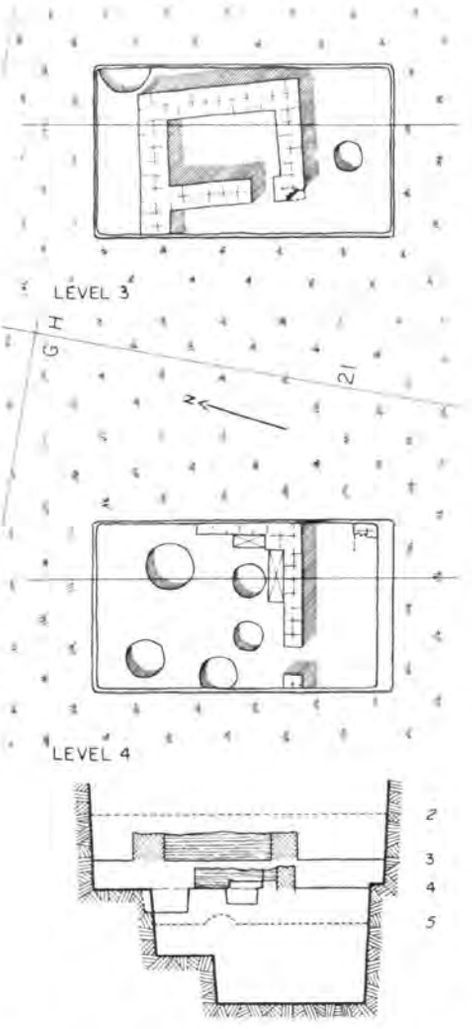


FIG. 330.—PHASE J. PLANS AND SECTION OF TA'YINAT T 8:4–3. SCALE, 1:200.

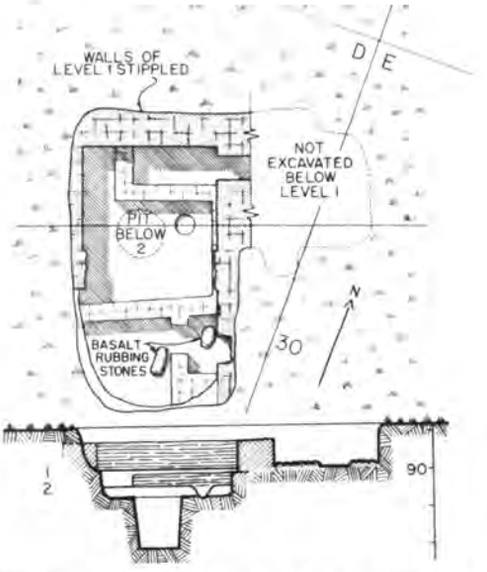


FIG. 331.—PHASE J. PLAN OF TA'YINAT T 13:2 WITH WALLS OF T 13:1 SUPERIMPOSED (CF. FIG. 332) AND SECTION OF ENTIRE T 13 OPERATION. SCALE, 1:200.

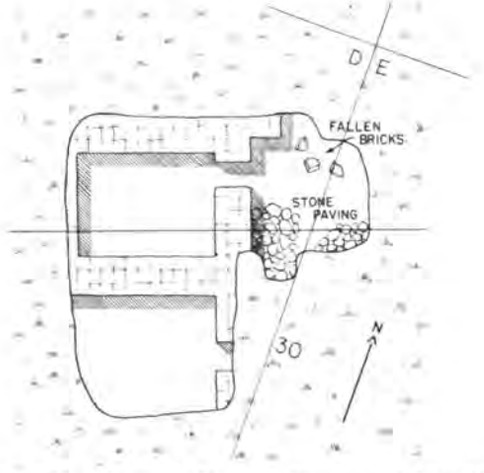


FIG. 332.—PHASE J. PLAN OF TA'YINAT T 13:1 (CF. FIG. 331). SCALE, 1:200.

Two rooms to the south were connected by a doorway. The portion of the building exposed in T 13:1 (Fig. 332) was remarkable mainly for the thickness and excellent construction of its walls. The one fully cleared room was not large; it had a doorway to the east into an area with some stone pavement and an offset or pier (or buttress) just north of the doorway. The portion of a room (or court?) exposed to the south also had an east doorway; it covered a somewhat larger area than the northern room. The walls of this building showed marked traces of a fire, which probably terminated the occupation; some more or less intact and fire-hardened *libn* bricks were found, especially in the eastern area near the stone paving.

POTTERY

The ceramic traits of Phase J are in general as follows:

1. The only signs suggestive of Red-Black Burnished Ware are found in the cooking-pot group.[1]
2. While the sherd bulk in the cooking-pot category is relatively small and the profiles and clays are somewhat varied, it may be that several new cooking-pot wares make their appearance in Phase J.
3. A few sherds of Brittle Orange Ware occurred on the lowest Phase J floors.
4. Over half of the Phase J sherd bulk (and some 112 complete or reconstructible pots) are in Simple Ware of the type which begins in Phase I. The proportion of sherds with corrugated surface drops sharply, however, and there are a few cases of comb-incised and comb-impressed surfaces. Goblets are predominant in Phase J.
5. The proportion of Painted Simple Ware increases markedly but is still relatively small in terms of the whole sherd bulk. A white-on-black effect achieved by incising through dark paint is one of the criteria chosen for the beginning of Phase J.
6. Smeared-Wash Ware, making up about a fifth of the sherd bulk, increases at the beginning of Phase J but shows a marked decrease in the uppermost floors.
7. Two types of "imported" pottery are represented by a Troy IV type cup and gray burnished bottle sherds.

Since this volume does not include the materials from the phases which succeed Phase J, some tentative expression of the criteria for the end of Phase J seems necessary here. The question of how substantial (or, in fact, unsubstantial, as far as our exposures went) Phase K is will be treated in the volume on the pottery of the later ᶜAmuq phases. It is at least clear that some of the main Phase J ceramic criteria seem to go out of fashion more or less concurrently. These criteria include some of the more distinctive Simple Ware features (cylindrical spouts and goblets), the "white-on-black" decoration in the Painted Simple Ware, and the Smeared-Wash Ware. When these traditions disappear, Phase J can be said to have ended.

The following descriptions are based on a total selected field sampling of 912 sherds and some 153 complete or reconstructible pots, all from Taᶜyinat (see p. 429).

Cooking Pots and Other Coarse Pottery
(6–11% of total selected sherd bulk)

Megascopically the Phase J cooking pots are even more variable than those of Phase I. There is also considerable variability in profiles, considering the size of the sample. Some examples are actually not cooking pots but are included in this group because of their clays.

Some of the profiles appear to be derived more or less from the first cooking-pot subgroup of Phase I (see pp. 403–5) or are possibly more direct but technologically very debased hangovers from the Red-Black Burnished Ware (see Pl. 39:1 for a good example).[2]

Thus a bowl (Fig. 333:1, Pl. 39:7) is made of a coarse clay which would fit into the range covered by the Red-Black Burnished Ware clay; it may or may not have an ocherous slip, and its mottled surface is orange-brown to neutral buff. The profile conforms with that of one of the Red-Black Burnished Ware bowl types (cf. Fig. 305:1), but the body wall is thick and uneven and the burnishing is careless and open. In Phase I such poorly made examples (see pp. 404–5 and Fig. 308:1–2) of probable Red-Black Burnished Ware are classified under the first cooking-pot subgroup. But the classification is artificial; we might just as well say that both the Phase I and the Phase J examples are debased cases of Red-Black Burnished Ware. The

[1] Actually there are a few proper Red-Black Burnished Ware sherds and one reconstructible bowl (T3676) from Phase J floors, but they seem more likely to be extrusive than in proper context.

[2] In many such examples the surfaces are smoother than would result simply from wet-smoothing, but they tend not to show clear traces of burnish strokes. They may have been burnished while the clay was too wet or with a very broad (smoothing rather than proper burnishing) tool. No burnish is indicated in the drawings.

examples shown on Figures 333:2 and 334:4–10 probably all come in this category, although ledge handles are not so common in proper Red-Black Burnished Ware.

Hole-mouth jars with thickened lips and burnished surfaces, which characterize the first cooking-pot subgroup of Phase I (see p. 404 and Fig. 308:3–6), occur in Phase J (Fig. 334: 1–3), but two particularly poorly made hole-mouth pots (Fig. 333:3–4) do not have thickened lips; the sherds seem typical of a small series, but neither the broadly projecting ledge handle (Fig. 334:3) nor the pouring spout (Fig. 334:2) is present in the Phase I sortings. The bowl sherds (Fig. 334:4–7, 9) and two complete bowls (e.g. Fig. 333:2), as well as two clumsy pedestal sherds (Fig. 334:8, 10), are of coarse clays which would fall within the range of the Red-Black Burnished Ware clay, but the surfaces are in varying shades of dirty brown-buff.

An "andiron" (Fig. 333:5) is probably a section of a wheel-turned cylinder, with its ledge handles and lugs added. The intact front face is somewhat splayed out, as in the Red-Black Burnished Ware "andirons" of Phases H–I (see Fig. 290), but it is not decorated. The piece has an allover but rather careless burnishing on a light brown-buff surface. Its coarse clay appears to fall within the range of the Red-Black Burnished Ware clay; it has a heavy concentration of varicolored mineral inclusions and probably some plant temper.

Three miniature vessels (Fig. 333:7–9) of heavily gritted chaff-tempered clay are brown-buff or blackened by fire. They are of course hardly cooking pots, but on the basis of their clays they conform most closely to this group. What seems to be a scoop fragment is included here (Fig. 333:10).

A selection of coarse dull-faced jar sherds (Fig. 334:11–20) and a complete jar (Fig. 333:6, Pl. 39:8) show no uniformity of clay except for the generally coarse cooking-pot character. If a larger sampling were available, the following types might represent recognizable groups:

1. Very coarse brown-black hole-mouth jars with irregular burnish (Fig. 334:11–12).
2. Medium-coarse brown-buff to black jars with low rims and irregular burnish (Figs. 333:4, 334:13–14).
3. Coarse jars with some irregular burnish on a more or less smoked brown-buff surface (Fig. 334:15–17). The varicolored mineral inclusions in this lot are sometimes very coarse and apparently include gypsum crystals; the clay is rather soft and crumbly.

Four sherds (Fig. 334:18–21) are of different clays from those in the three lots suggested above. Two (Nos. 18 and 20) have traces of burnish, and the pierced base (No. 21) probably refers to a jar of some such type as that shown on Figure 228:2 (Phase G).

Two final odd lots of sherds involve clays which are too varied to warrant description in so small a sample, but all are coarse and incompletely oxidized examples of cooking-pot character. The first lot (Fig. 334:22–24, 26) apparently pertains to a kind of low bowl or platter with burnished inner surface and purposely pitted bottom. In two examples (Nos. 22–23) the bottom surfaces seem to show breaks along a horizontal cleavage line—as if a layer had spalled off (cf. pp. 405–6 and Fig. 308:16). The bottom surface of No. 24 is intact, as is that of a Second Mixed Range example (No. 25) shown here for purposes of demonstration. In No. 26 the ring structure of the base assures us that the intentional roughening is on the inner surface of the vessel, which must have served as a kind of grater.

The second of the two final odd lots (Fig. 334:27–28) pertains to bowls with pierced pedestal base and impressed decoration outside. No. 28 is a fragment of a pierced pedestal base, showing traces of the decoration which must have been applied over the body of its bowl.

Brittle Orange Ware

(0–3% of total selected sherd bulk)

Sufficient body sherds, in addition to the rim sherds, appeared on the deepest Phase J floors to insure the use of Brittle Orange Ware at the beginning of the phase. Thereafter, it seems to go completely out of fashion.

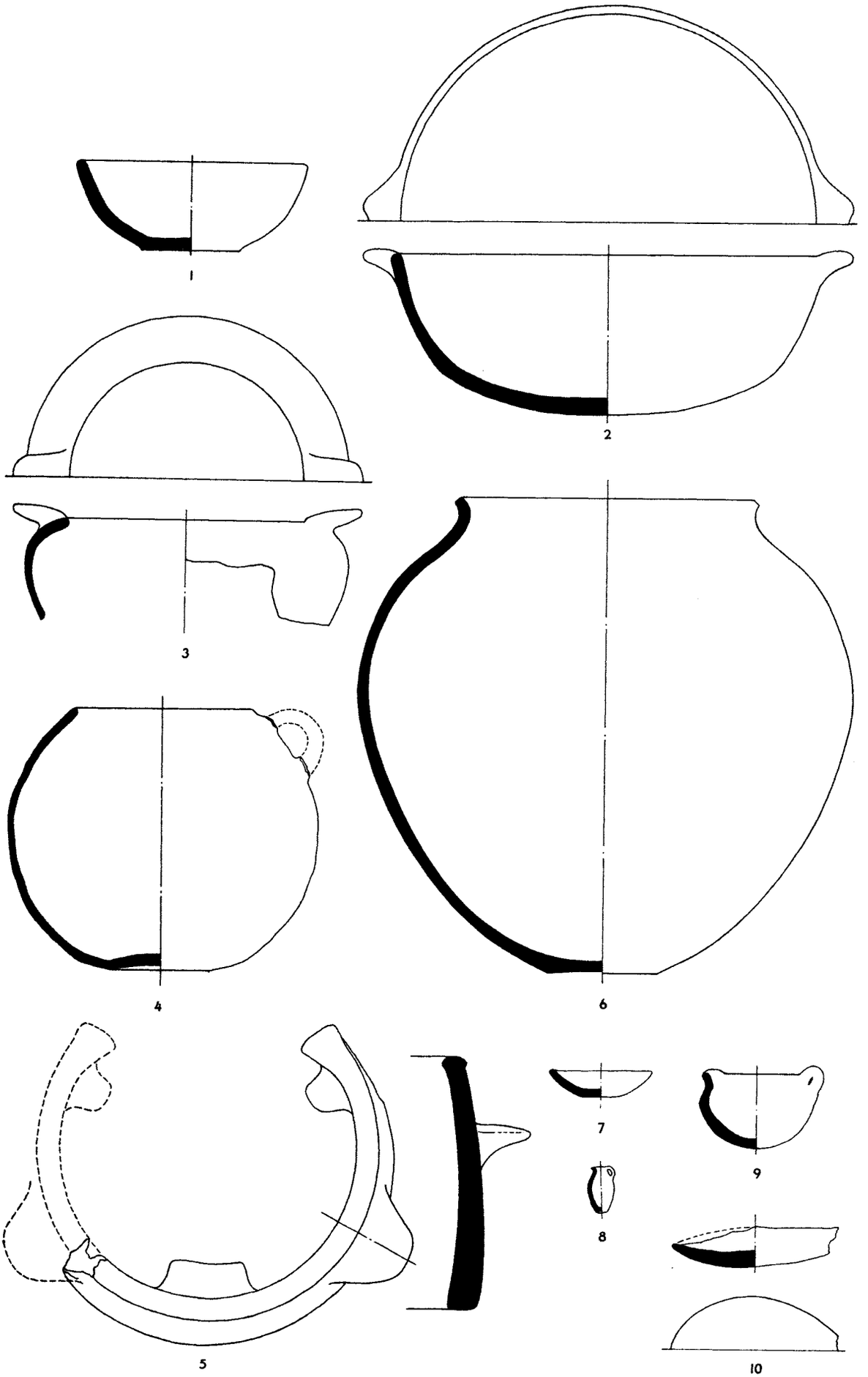


FIG. 333.—PHASE J. COOKING POTS AND OTHER VESSELS OF COARSE CLAY. SCALE, 1:5

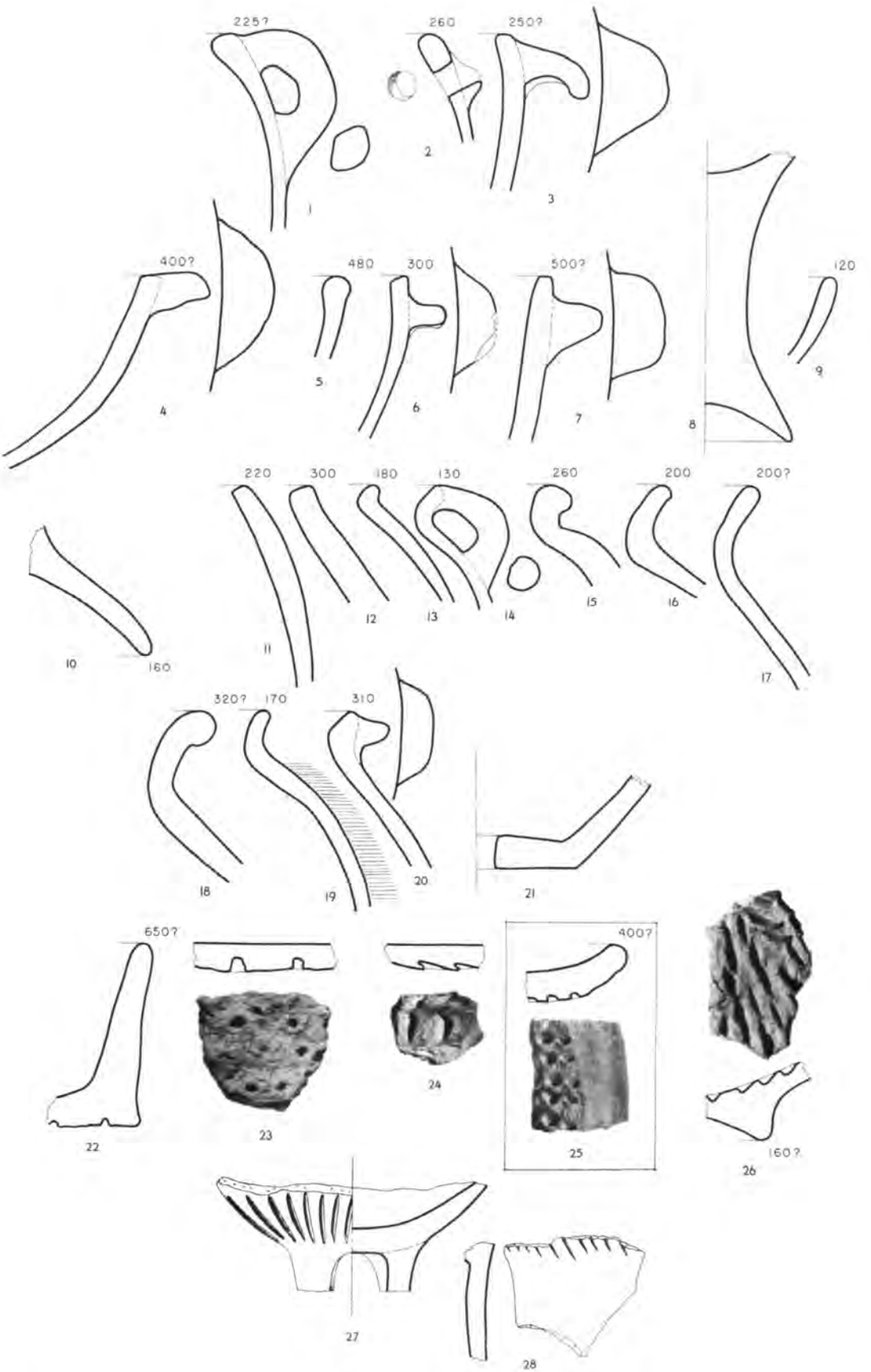


FIG. 334.—PHASE J. COOKING-POT SHERDS (NO. *25* FROM SECOND MIXED RANGE). SCALE, 1:3

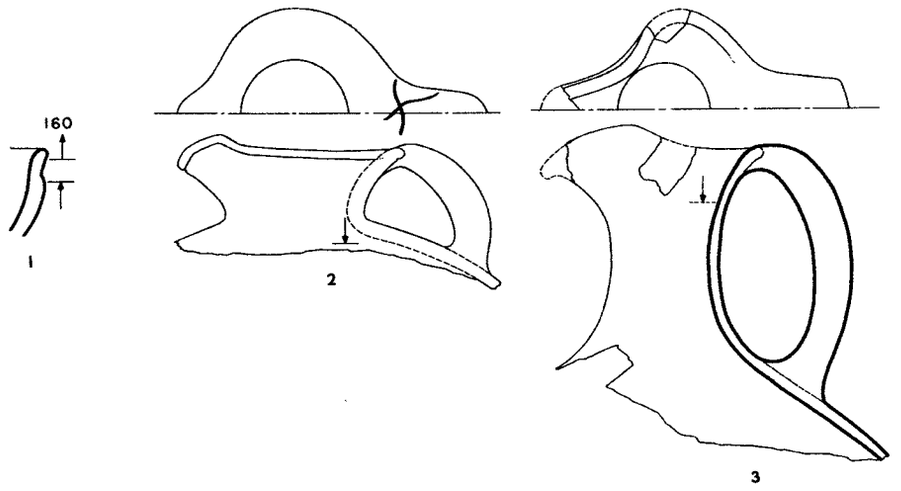


FIG. 335.—PHASE J. BRITTLE ORANGE WARE. SCALE, 1:3

The Phase J examples of the ware do not differ in any apparent way from their Phases H–I counterparts. Figure 335 shows one of the more usual small bowl rims (No. 1) and a pair of fine examples of pitcher rims (Nos. 2–3, Pl. 38:10). While neither type of pitcher is present in the Phases H–I sortings, it is doubtful whether their absence is due to anything more than accident.

SIMPLE WARE

(53–58% of total selected sherd bulk)

The fabric is described under Phase I (pp. 406–8). Surface corrugation is not so common now, and raised V-sectioned bands are still relatively rare. Comb-impression and comb-incision appear, but in very minor proportions.[3]

As to profiles, the proportion of deeper bowls is somewhat greater in Phase I than in Phase J, as indicated by both sherds (cf. Fig. 312:13–18 with Fig. 336:8–12) and whole-reconstructible examples (cf. Fig. 314 with Fig. 337). Plates or saucer-like examples (Fig. 336:1–2, Pl. 41:1) are not so common in Phase J as low bowls (Fig. 336:3–9), but neither type seems to be much used in Phase I. Whole-reconstructible examples of lower bowls with simple to splayed lips are shown on Figure 337:2–6. Some of the sherds (Fig. 336:10–12) show rather marked modeling of the lip. Somewhat deeper bowls (Figs. 336:13–24, 337:7) show a tendency toward outrolled or modeled lips. Corrugated surfaces are much less common on bowls than on goblets; Figure 336:23 is almost high enough to be a goblet, but No. 24 is certainly a bowl. Little bowls or strainers are represented by both sherds (Fig. 336:25) and a complete example (Fig. 337:17). Large tublike bowls (Figs. 336:26–29, 337:1) are fairly common.

Plain deeper cups are rare (Fig. 336:30); they seem a bit too large in diameter to be classed with the normal run of goblets. A range of larger incurving jars, usually with handle and sometimes with modeled lip, appeared (Fig. 336:31–35; cf. Fig. 362:8). Little low-collared jars (Figs. 336:36–39, 338:18–19), usually with loop handle, are still present but are less likely to be corrugated than those of Phase I (cf. Figs. 312:24–28, 314:6) and tend to be thicker-walled (see Figs. 336:39, 338:19). Larger jars with low collar and sometimes modeled lip (Fig. 336:40–43 and possibly Fig. 337:11) suggest a form which does not seem to be well developed in Phase I (cf. Figs. 312:29, 314:7). A good example of this type of profile appeared in the Second Mixed Range (Fig. 362:10).

[3] For the total Phase J Simple Ware selection (sherds and whole-reconstructible pots) the proportions of the various types of surfaces are as follows: 78.5% plain; 14% corrugated; 4.5% raised V-sectioned bands; 2% comb-impressed; 1% comb-incised.

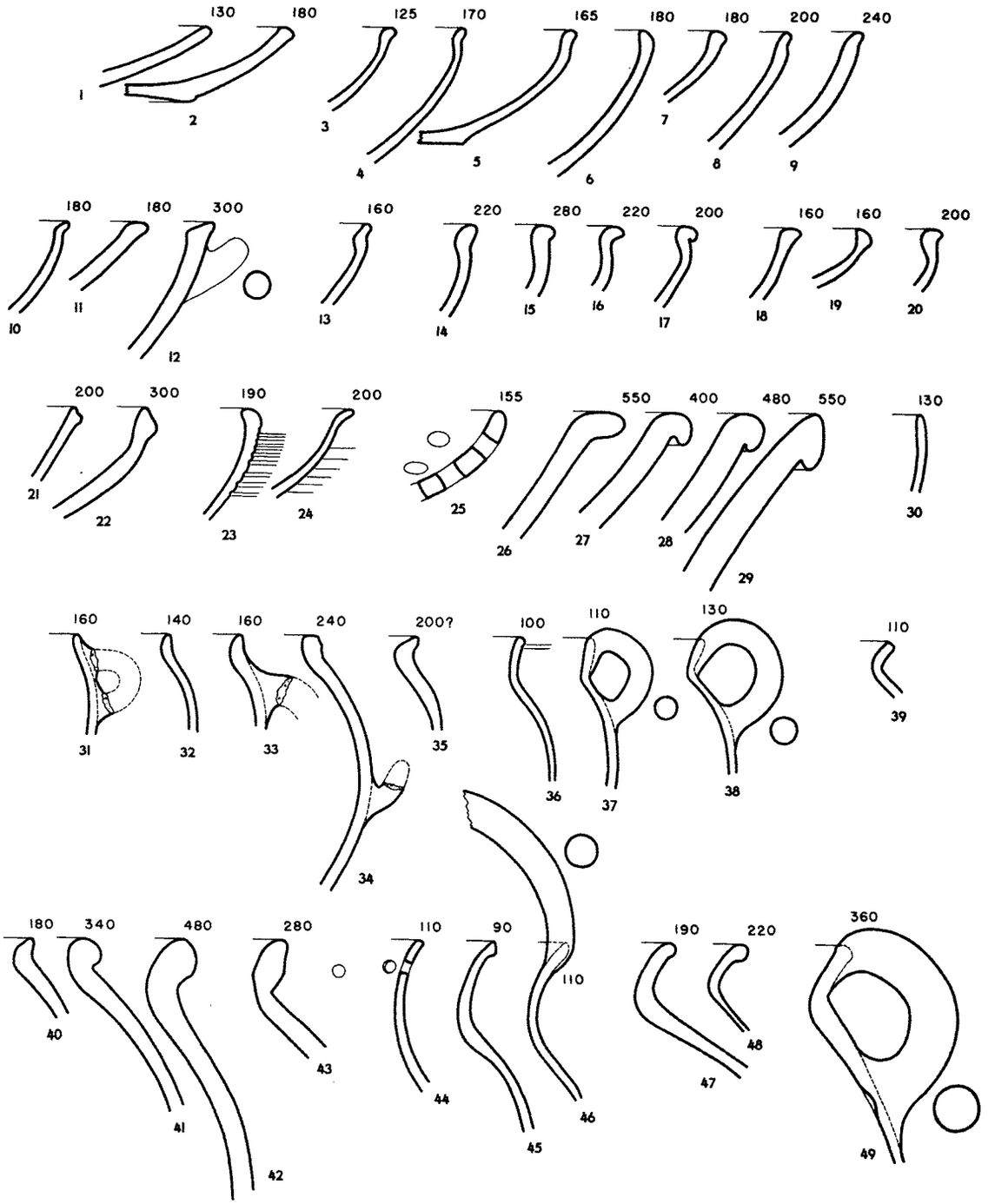


FIG. 336.—PHASE J. SIMPLE WARE. SCALE, 1:3

Sherds of rather narrow-necked corrugated jars, usually with one handle, are common in Phase I (Fig. 312:38–40) but are not well represented in the Phase J sherd sampling; the only possibilities (Fig. 336:44–48, No. 47 being the most likely) are actually quite different from the Phase I type, which does appear in Phase J in the Smeared-Wash Ware (Fig. 346:32). Three handleless jars (e.g. Fig. 337:8–9, Pl. 40:2) and a painted jar (Fig. 342:2) probably represent the same general profile.

There are a few sherds of wider-mouthed jars (Fig. 336:49) of the types shown on Figure 337:10–11.

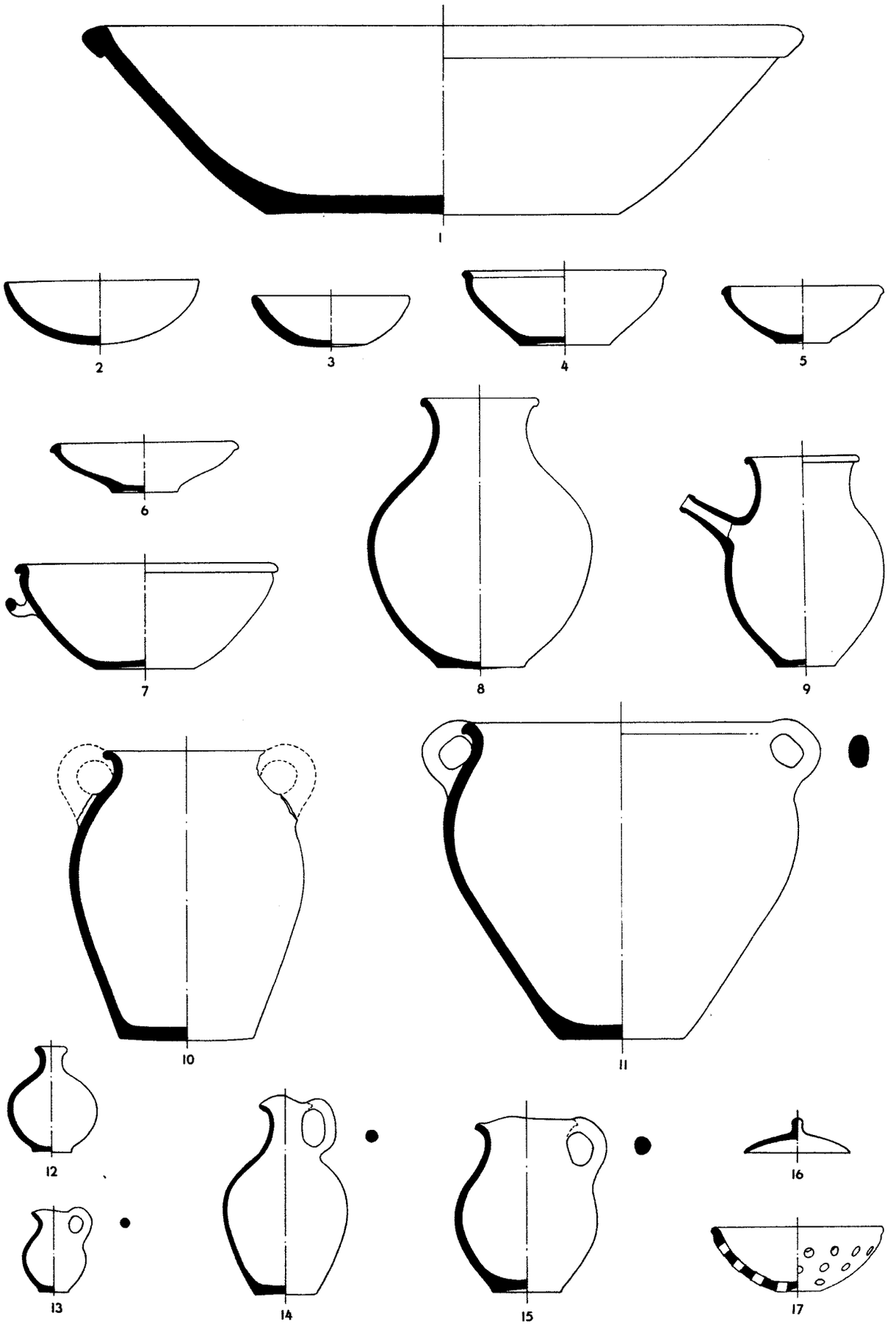


FIG. 337.—PHASE J. SIMPLE WARE. SCALE, 1:5

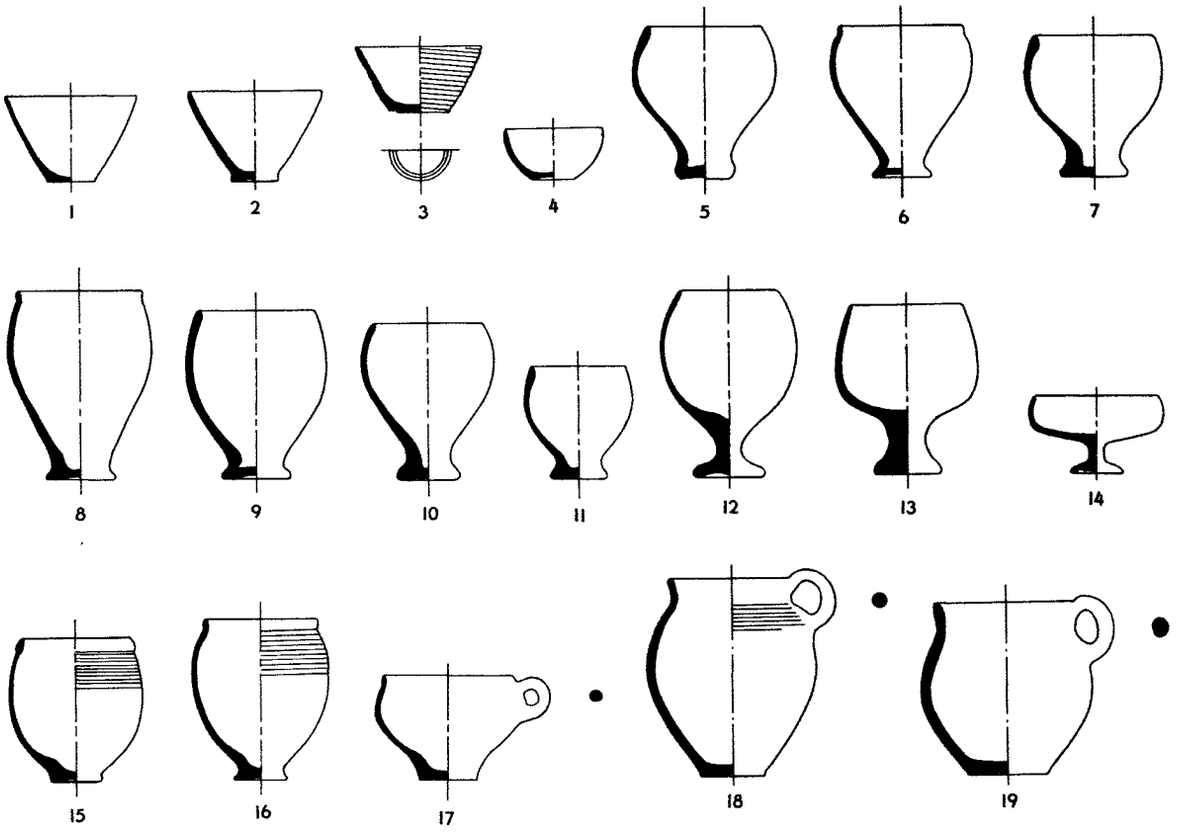


FIG. 338.—PHASE J. SIMPLE WARE. SCALE, 1:5

Sherds of large jars are fairly numerous and show a greater proportion of lower collars than is the case in Phase I (cf. Fig. 339:1–8 and Pl. 41:15, 17 with Fig. 312:42–45). The most usual examples in Phase J are in the range shown by Figure 339:1–6. As to higher collars, a sherd with raised V-sectioned bands (Fig. 339:7) is from much the same kind of jar as appeared complete in the Second Mixed Range (Fig. 361:7, Pl. 47:1).

Bottles (Figs. 337:12 and 339:9–13, Pl. 41:16; see also Fig. 361:9 and Pl. 40:3) and pitchers (Figs. 337:13–15 and 339:14–17, Pl. 40:4) are well represented in Phase J. The probable range of rim diameters for larger bottles is indicated by Figure 339:9–11 and for pitchers by Figure 339:14–17.[4] Pitchers tend to have modeled rims (Fig. 339:17) and seem always to have simple pinched pouring lips.

Truncated conical cups, so characteristic of Phase I, are present in Phase J but are for the most part somewhat modified. Most typically they have thicker walls, and they are usually without the incised base. Figure 339:18 shows a simple flat base and a slightly exaggerated example of a thick wall; Figure 338:3 shows a thinner extreme with curved side and incised base. There are also complete straight-sided examples, both corrugated (T3810–11; cf. Fig. 315:3) and plain (T3791; cf. Fig. 315:4), with incised base. Figure 338:2 is quite typical as to wall thickness and has a button type of flat base. Figure 338:1 (Pl. 40:6) has a thinner wall. Figures 338:4 and 339:19 are examples of equally common variants, one with curved side. Corrugated body surfaces (Figs. 338:3, 339:20–23) are not so common as in Phase I. Examples with curved sides are more likely to be so treated, and the corrugation tends to be

[4] But see two Second Mixed Range pots (Fig. 361:8–9) which vary considerably in size but have almost equal rim diameters.

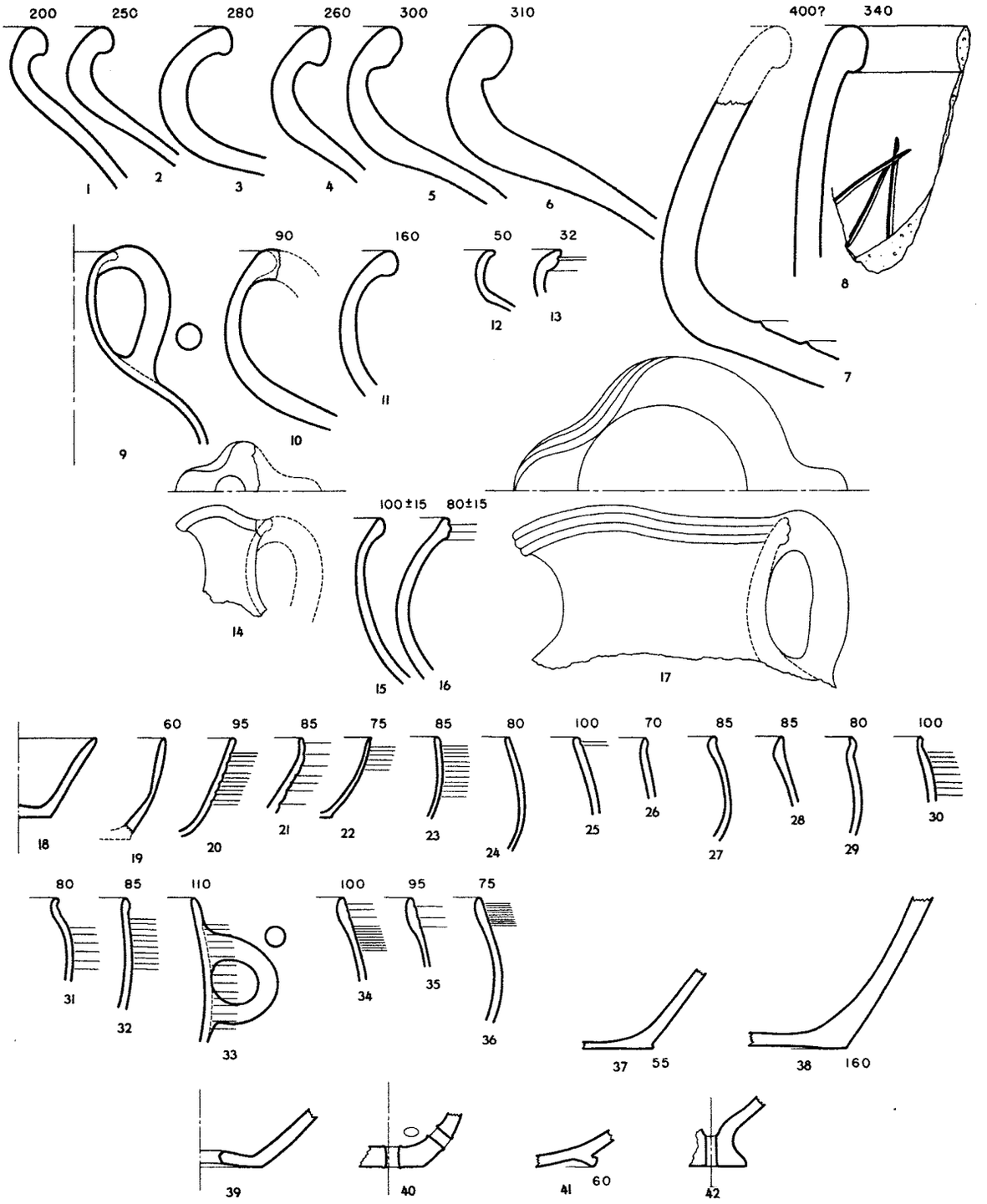


FIG. 339.—PHASE J. SIMPLE WARE, SCALE, 1:3

wider and more carelessly done. In Phase J, however, sherds of truncated conical cups are far outnumbered by goblet sherds.

The most easily remarkable feature of the Phase J aspect of the Simple Ware is the goblet profile, which becomes common toward the end of Phase I (see p. 412). All of the Phase I rim sherds are corrugated and represent a type essentially like that shown on Figure 338:15 (Pl. 40:8), with thickened or modeled lip and little relief at the base. The Phase J rim sherds which

are illustrated (Fig. 339:24–36 and Pl. 41:9, 11, 14) show the essential range of upper body and rim profiles. We were fortunate in recovering a large selection of whole and reconstructible goblets, which elaborate the range indicated by the sherds and give a quite fair impression of the proportion of plain surfaces to corrugated surfaces (Fig. 338:5–16, Pl. 40:8–9; see also Fig. 362:3, 4, 7 and Pl. 40:5).

There is considerable variety in the treatment of goblet bases (see Fig. 338:5–16, Pl. 42:6, 7, 9). A synoptic chart (Fig. 340) actually shows truncated conical cup and goblet bases from both Phase I and Phase J. The bases drawn with heavy lines are available from Phase J alone, those with light lines from both phases. Individual forms in the chart are referred to in the text by the number of the vertical row followed by that of the horizontal row; for example, 76 is the form in the lower right corner. The approximate frequencies of the various base profiles (as indicated by sherds and whole-reconstructible pots) are about as follows:

Forms 11–13 are most frequent.[5]
Forms 23, 34, and 73 are very frequent.
Forms 71 and 72 are frequent.
Forms 31, 32, and 51–53 are common.
Forms 21, 41, and 74 are fairly common.
Other forms are relatively rare.

The delicacy of outline of some of the goblet profiles is quite remarkable.[6] Presumably the complete profiles shown on Figures 342:4–9 (Phase J Painted Simple Ware) and 362:2–7 (Second Mixed Range) give a fair impression of the total repertoire of goblet profiles. The squat type with a handle (Figs. 338:17, 342:9) is unusual, and the flared chalice (Fig. 342:8, Pl. 43:5) may be unique (cf. Fig. 344:5). The most frequent painted goblets are rather squat and drum-based (Fig. 342:4–6). This type is represented in the unpainted ware by four whole or reconstructible examples (e.g. Fig. 338:5, 10). The frequency expressed for the drum base (forms 71 and 72 on Fig. 340) may be represented in fair part by base sherds from painted goblets.

There are few other profiles in Simple Ware. Jar lids are represented by several sherds and one intact example (Fig. 337:16). Some of the sherds may come from an inverted type which occurs in Painted Simple Ware (Fig. 342:10). Attention might be called to a strange tall pot of the Second Mixed Range (Fig. 362:9); it is of normal Phases I–J Simple Ware, but sherds suggesting such a rim turned up in neither the I nor the J samples.

Bases (save for truncated conical cups and goblets, which are discussed above) are generally flat or slightly concave (Fig. 339:37–38, Pl. 42:1); they may be smooth or string-cut, and a few from larger pots are ash-laid (Fig. 339:38, Pl. 42:1). Ring bases (Fig. 339:41) are rare; there are no pedestal bases or incised bases for large jars (cf. Fig. 313:19–23). A pierced flat base sherd appeared (Fig. 339:39; cf. Fig. 362:10). Several fragments of strainer bases (Fig. 339:40) are available, and there is one purposely pierced base of goblet type (Fig. 339:42).

Handles are predominantly round in section and applied as vertical loops (e.g. Fig. 337:14). Round-sectioned circumflex handles (Figs. 336:12, 34, and 337:7), the basket type (Fig. 336:46), and various flattened and ovoid-sectioned loops (Figs. 337:11, 15 and 339:33) are also present. Figure 336:44 shows what are probably string-hole piercings in the collar of a jar. The knobs on jar lids (Fig. 337:16) might also be recalled here.

[5] Many of these are probably from Phase J truncated conical cups (cf. Fig. 338:1–2).

[6] This is an aside in a somewhat lighter vein. It will be obvious that the Phase J Simple Ware (and the Painted Simple Ware for that matter) contains a high proportion of vessels whose purpose can only have been as containers for liquids. In Phase J the spouted jar, tall narrow-necked jar, bottle, pitcher, and goblet categories represent slightly over 70% of the total available Simple Ware sherd and whole-reconstructible pot bulk. We also suggest that such a vessel as that shown in Fig. 338:14 can hardly have been made merely for the purpose of drinking water.

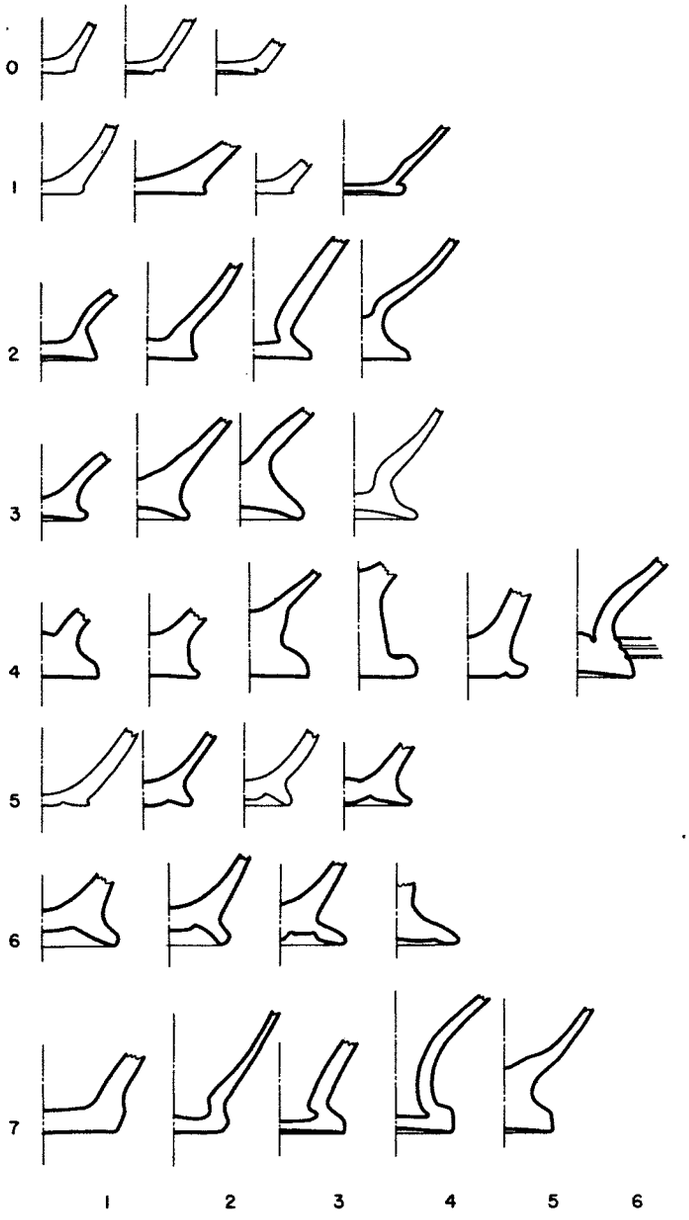


FIG. 340.—PHASES I–J. SYNOPTIC CHART OF SIMPLE WARE TRUNCATED CONICAL CUP AND GOBLET BASES

Cylindrical (wheel-turned) spouts are well represented (Figs. 337:9 and 341:1–3, Pls. 40:2 and 42:8). Figure 341:4 is not demonstrably a spout, for no part of the wall of a vessel adheres to it.[7]

As to decoration (see p. 435, n. 3), raised V-sectioned bands are used on large jars (Figs. 339:7, 341:5 and Pl. 42:20; see also Fig. 361:7 and Pl. 47:1). One of the clearer cases of comb-impression is shown (Fig. 341:6); this type of surface treatment is seen in the ᶜAmuq samplings as early as Phase G (Fig. 233:12). In Phase J, examples of comb-incision come mainly from the uppermost floors but occur sporadically even at the lowest depth reached in Taᶜyinat T 13 (below floor 2). Megascopically they appear to be of Simple Ware clay. The

[7] This sherd is pertinent to the question whether the Til Barsib type of tripod foot with three cylinders was present in the ᶜAmuq.

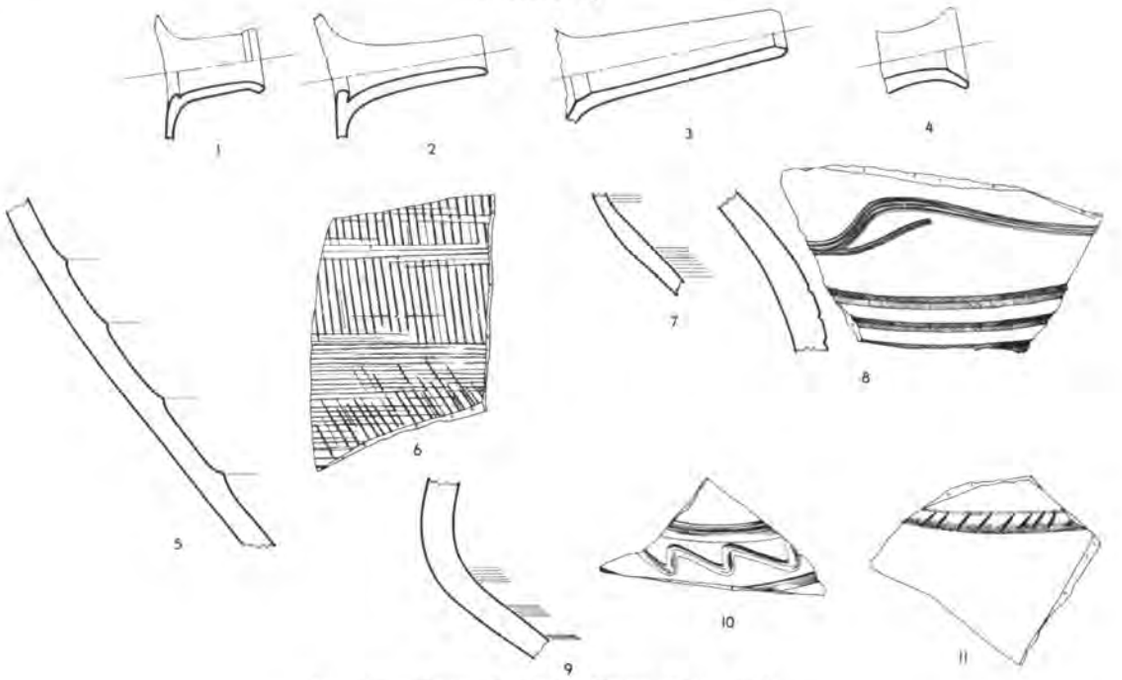


FIG. 341.—PHASE J. SIMPLE WARE. SCALE, 1:3

illustrated sherds (Fig. 341:7–10, Pl. 42:18) seem to pertain to larger jars. A plastic band with oblique impressions, on a sherd from T 13:1, is unique (Fig. 341:11). A collar sherd from a large jar (Fig. 339:8, Pl. 41:17) has traces of some kind of impressed device on it.

PAINTED SIMPLE WARE

(9–14% of total selected sherd bulk)

The clay of this group corresponds to that of the Phases I–J Simple Ware (see pp. 406–8, 413–14), and the profiles are essentially the same.

Bowls (Fig. 343:1–3), small jars and krater-like jars (Figs. 342:1 and 343:4–7, Pl. 44:4), and larger open jars (Fig. 343:8–9, Pl. 44:1) are present. Jars with narrower necks (Fig. 342:2) appear, and bottles (Fig. 343:10–18) seem common. Figures 342:3 (Pl. 43:2) and 344:1 (and probably 2) indicate the available range of pitchers.

The variety of decorated goblets is indicated by Figures 342:4–9 and 344:3–16 (see also Pls. 43:3–5 and 44:7–9, 12). The painted goblet, especially the type with wavy incisions through paint (e.g. Fig. 342:6 and Pl. 44:7, 9; see also Pl. 89:2 of Second Mixed Range), is a hallmark of Phase J. As indicated above (p. 440), the goblets chosen for painting seem predominantly of the squat drum-based type (Fig. 342:4–6), and the delicately profiled chalice (Fig. 342:8, Pl. 43:5; cf. Fig. 344:5) is known only in the painted ware. The squat type with a handle (Fig. 342:9), known also in Simple Ware (Fig. 338:17), is unusual.

The only other available profile in Painted Simple Ware is a jar lid (Fig. 342:10).

Secondary features and bases essentially parallel those of the Simple Ware.

The painted designs are rather simple and may be classified as follows:

1. Simple painted bands (e.g. Figs. 342:1, 8, 343:1–5, and 344:1, 3–6, 19–21). Since these are so regular and carefully drafted, it seems likely that the brush was steadied against a support and that the pots were returned to the wheel for painting.
2. Painted bands inclosing simple wavy bands (e.g. Figs. 342:2–3, 344:28), crosshatching and crosshatched panels (e.g. Figs. 343:6, 344:24), chevron bands (e.g. Fig. 344:2, 7), and pendent waves (e.g. Fig. 344:22–23).

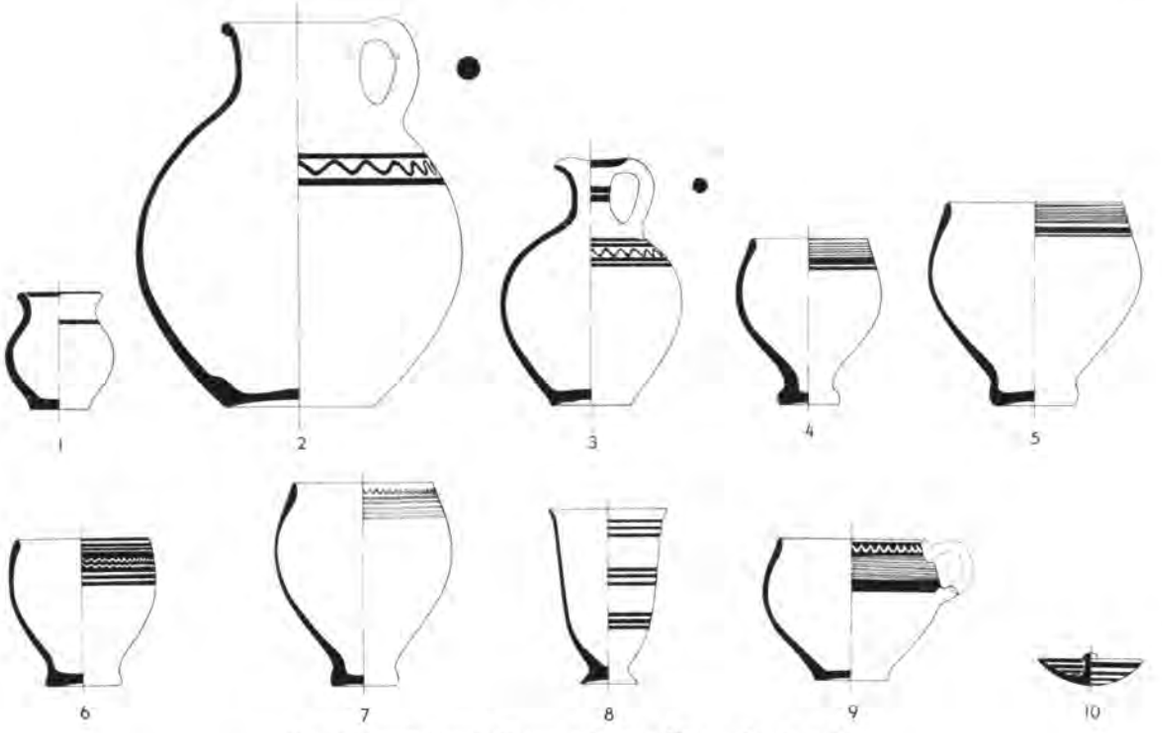


FIG. 342.—PHASE J. PAINTED SIMPLE WARE. SCALE, 1:5

3. More complex designs which may include some representational elements as fillers but which seem on the whole composed of geometric elements (e.g. Figs. 343:9 and 344:25–27, 31, Pls. 44:1, 10, 13, 15 and 89:4).
4. "White-on-black" designs consisting of simple bandings effected by incising through a broad band of black paint to the light clay, with the pot returned to the wheel and the clay still reasonably damp (e.g. Pl. 44:8 and Figs. 342:4–5, 343:15, 344:9–12). One example (Fig. 344:12) illustrates a combination of incising through black bands and an inclosed painted wavy band. On whole examples such as Figure 342:5, it may be noted that the tooled pattern is actually a very flat closely set spiral[8] and not a series of bands.
5. "White-on-black" designs effected by manipulation of the incising tool, which in some cases must have had two or even four (see Fig. 344:16) tines, against the revolving pot in such a way as to produce a series of wavy bands (e.g. Figs. 342:6, 343:16, 344:13–16, 29 and Pl. 44:5, 9). The white-on-black effect is one of the most characteristic features of the Phase J sortings.[9]

The decorators of this painted ware apparently were not very competent freehand draftsmen. The simple painted bands and the "white-on-black" designs show mechanical accuracy, but the other designs tend to show carelessness in composition and execution (e.g. Figs. 343:9 and 344:2, 8, 17–18, 24–26).

The lips of vessels are frequently decorated with daubs of paint (e.g. Fig. 343:3, 9, 11, 14), and loop handles are sometimes similarly daubed (Figs. 343:14 and 344:2, 8). While the white-on-black effect is most common on goblets, it also occurs on bottles (Fig. 343:16) and

[8] A result of simply moving the incising tool slowly upward or downward against the revolving pot. See p. 408 regarding the method of effecting corrugation and p. 413 regarding its possible relationship to the later horizontal reserved slip.

[9] I.e., in distinctive appearance but not in actual frequency. Examples with the "white-on-black" decoration make up only *ca.* 30% of the Painted Simple Ware (both sherds and whole-reconstructible pots), and the sherds of this ware represent 9–14% of the total selected sherd bulk of Phase J.

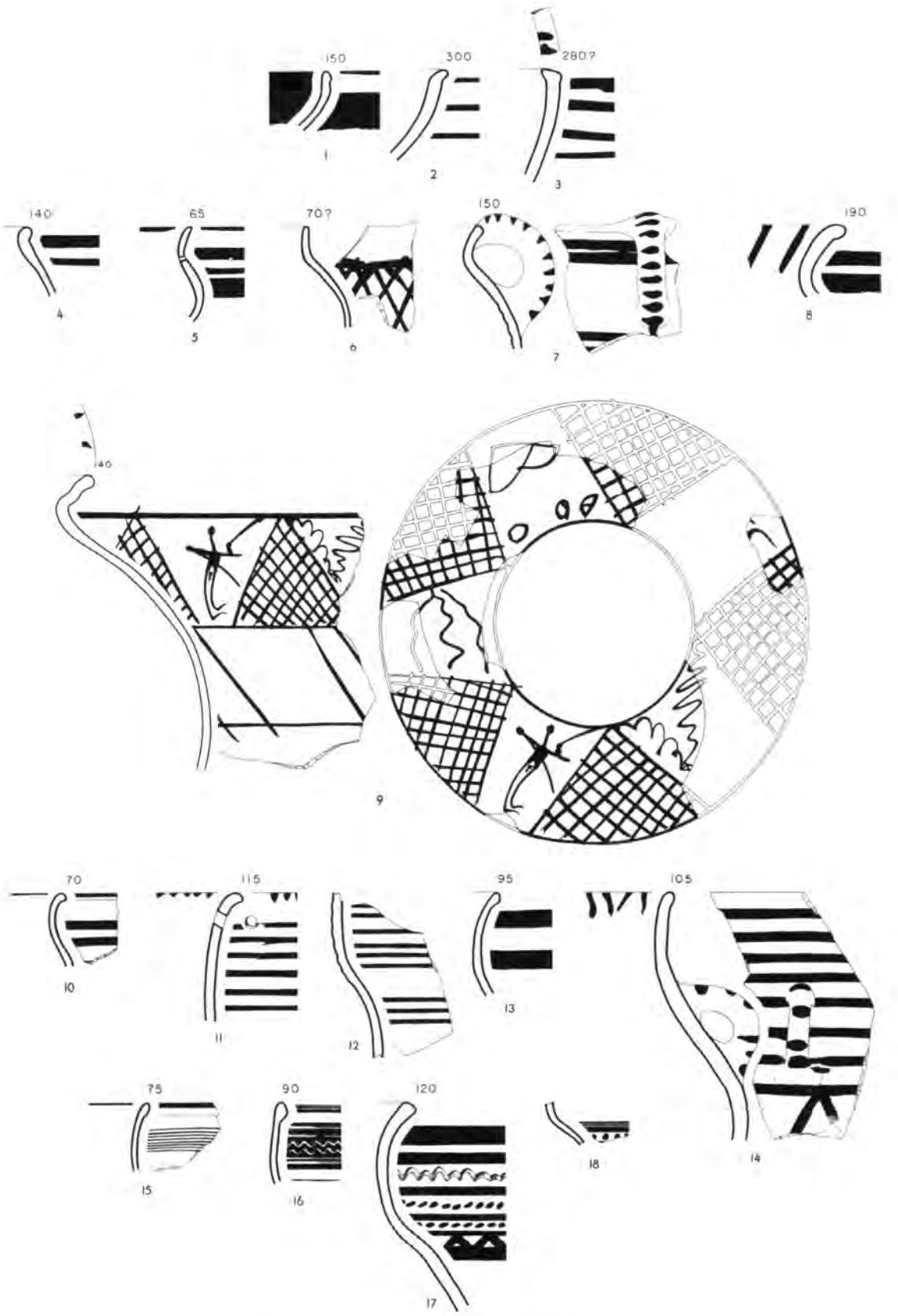


FIG. 343.—PHASE J. PAINTED SIMPLE WARE. SCALE, 1:3

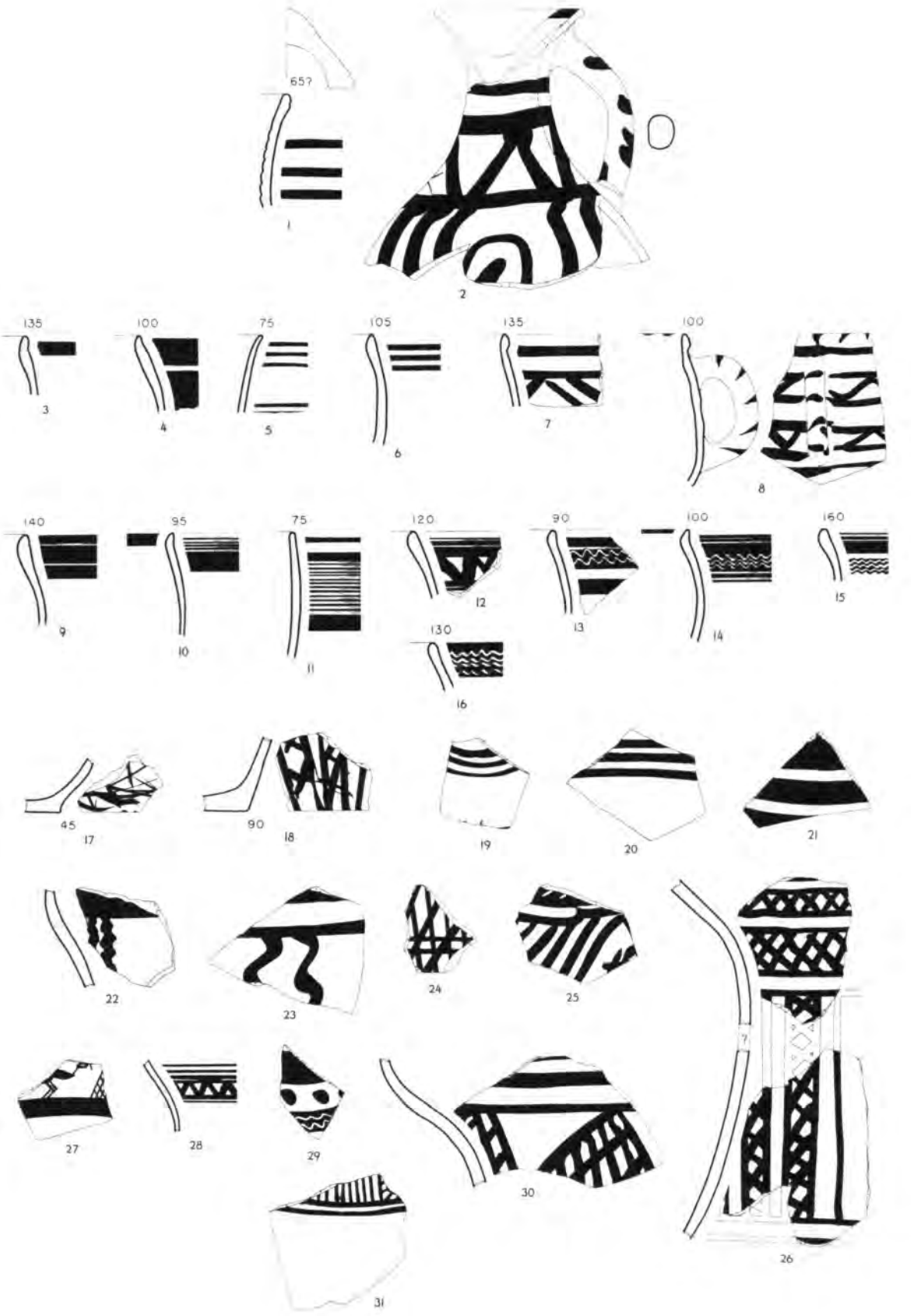


FIG. 344.—PHASE J. PAINTED SIMPLE WARE. SCALE, 1:3

even cups and cylindrical-spouted jars (cf. Fig. 365:2, 6). One bottle sherd (Fig. 343:17) has a wavy incised band combined with straight and zigzag painted bands and bands of painted dots. In this case the incision is not through the paint, which is reddish. A goblet whose surface seems well preserved has incision probably without paint (Fig. 342:7). Our Phase J samplings yielded none of the true white-on-black decoration of the rare type found in Phase I (see p. 417 and Fig. 321).

By far the most remarkable painted decoration, in spite of careless execution, is that applied to the shoulder of a large jar (Fig. 343:9). The megascopic examination of the clay gave no hint that the piece is in any way abnormal to the Painted Simple Ware. It must represent the same general tradition as do the more complex of the Phase I painted examples (see e.g. Fig. 318:5) and the several less comprehensible fragments from Phase J (e.g. Fig. 344:25, 27, 31). This tradition in painting can hardly have antecedents in the ʿAmuq. The Multiple-Brush Painted Ware of Phases G–H shows mechanically sterile decoration. To find a well conceived and earlier tradition in the ʿAmuq we must go back as far as Phase E, which is out of the question from the viewpoint of time alone.

Attention should be called to two cases of modeling applied to vessels probably of Painted Simple Ware. These are classified under clay figurines (see p. 453 and Fig. 350:3, 5).

Smeared-Wash Ware

(18–23% of total selected sherd bulk)

The megascopic description of this ware which is given under Phase I (pp. 414 f.) is based in part on sherds from Phase J contexts.

The number of Smeared-Wash Ware examples begins to fall off in the uppermost Phase J floors; their disappearance may begin a bit earlier and be a bit more gradual than that of the other elements which suggest the termination of Phase J (see p. 431).

While the ware is represented in much more detail in Phase J than in Phase I, it is doubtful whether there were any marked changes in profiles during its life in the ʿAmuq. In the case of the Simple Ware we did note some changes from Phase I to Phase J. Even in a large sorting of Smeared-Wash Ware, however, we would probably find less change than in the Simple Ware.

Rather straight-sided bowls range from low platelike forms (Fig. 346:1–2) to deep vessels of considerable diameter (Fig. 346:3). Several variants of the latter type are shown (Fig. 346: 4–6), and it is most probable that a Second Mixed Range bowl (Fig. 367:2) belongs to this group. Bowls with more curved profiles (Fig. 345:1) are more usual than those with straight sides, however, and most medium-sized bowls are of this type (Fig. 346:12–16). There is actually a large range of sizes, from cups (Fig. 346:7–11) to large deep bowls (Fig. 346:17). The lip is usually modeled in some way. Bowls with some incurving of the upper portion (Figs. 345:2, 346:18–24 and Pl. 45:2) are fairly common and again are likely to have modeled or grooved lips.

Smaller jars are not commonly represented among the sherds; Figure 346:25 shows one of a very few sherds from little low-collared jars such as are relatively popular in Simple Ware (cf. Fig. 338:18). Larger and rather wide-mouthed collared jars (Fig. 345:3, 5, 6, Pls. 45:1, 5 and 47:7) are quite common in Smeared-Wash Ware. These may have simple rounded (Fig. 346:26–27), grooved (Fig. 346:28), outrolled or splayed (Fig. 346:29–31) lips. Central body sherds of such jars seem to lack uniformity of thickness, as though these portions were handmade. Lower body, shoulder, and rim sherds give every indication of wheel-turning, however. Narrower-necked jars (Fig. 346:32, Pl. 46:9) and bottles (Fig. 346:33) are less common in Smeared-Wash Ware than in Simple Ware, and there are no fragments which clearly belong to pitchers.

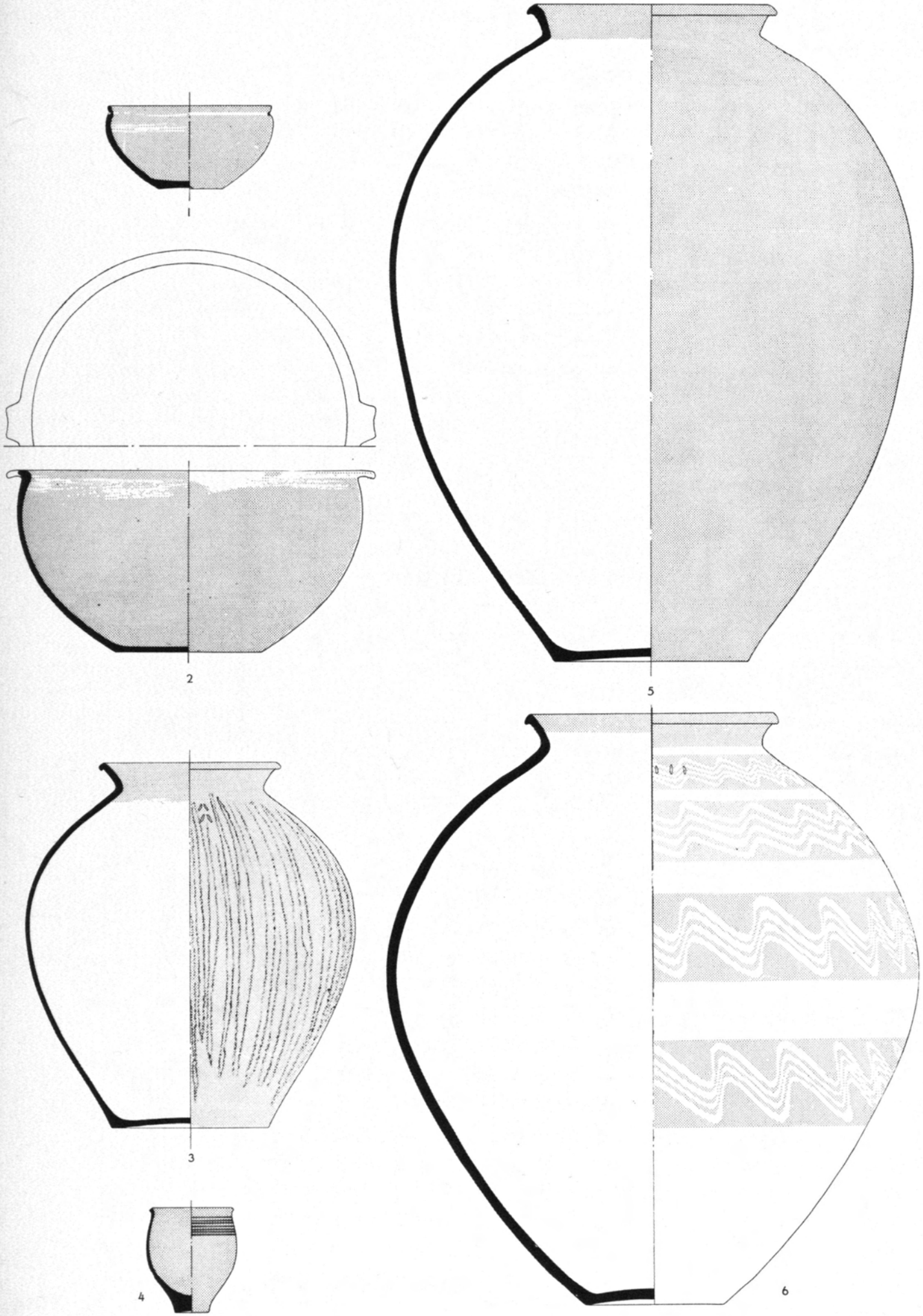


FIG. 345.—PHASE J. SMEARED-WASH WARE. SCALE, 1:5

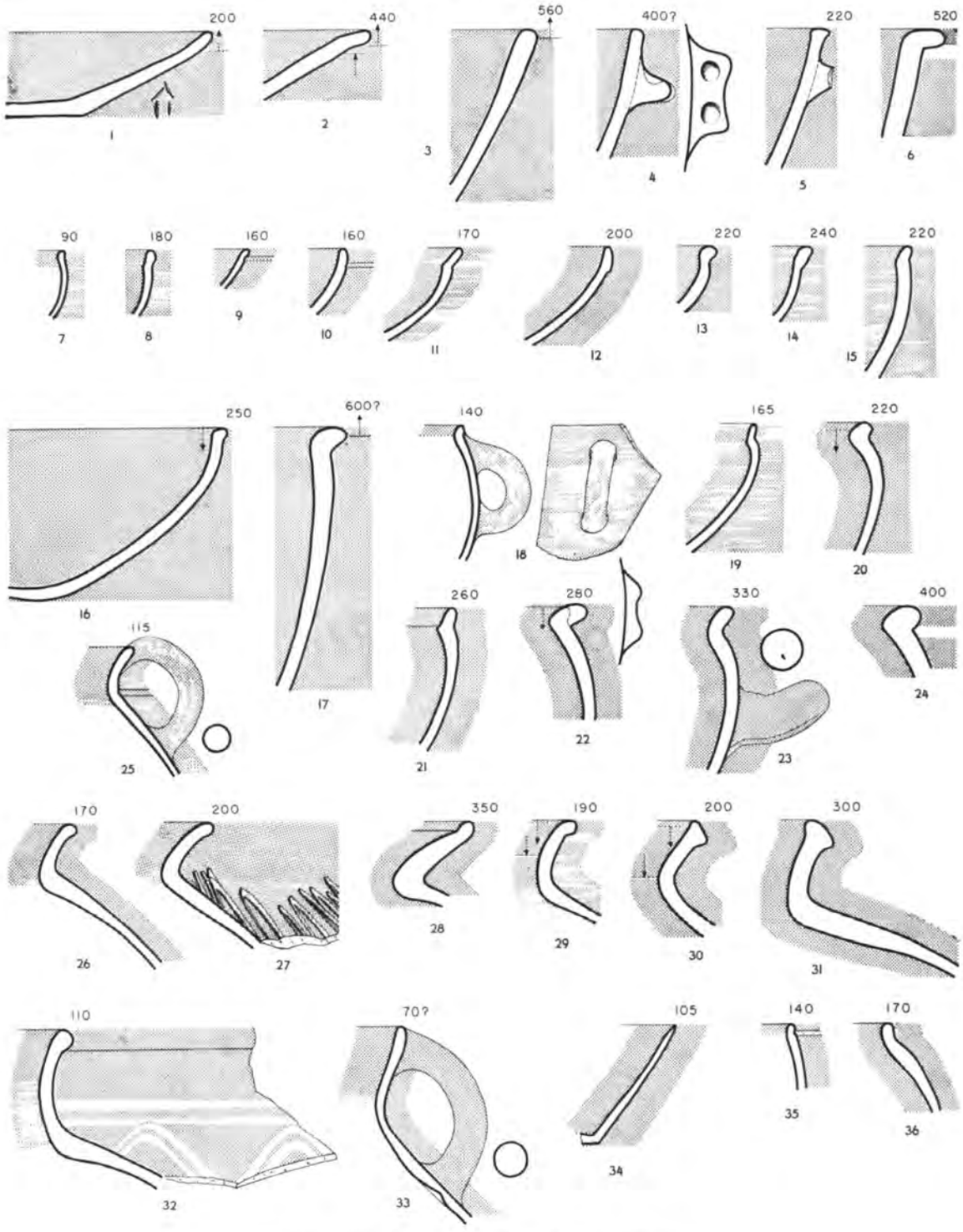


FIG. 346.—PHASE J. SMEARED-WASH WARE. SCALE, 1:3

There are two or three truncated conical cups, one even with an incised base (Fig. 346:34), and a few rim sherds which suggest goblets, though the diameters are rather large (Fig. 346: 35–36). The goblet was certainly copied in Smeared-Wash Ware, however (Fig. 345:4, Pl. 43:6).

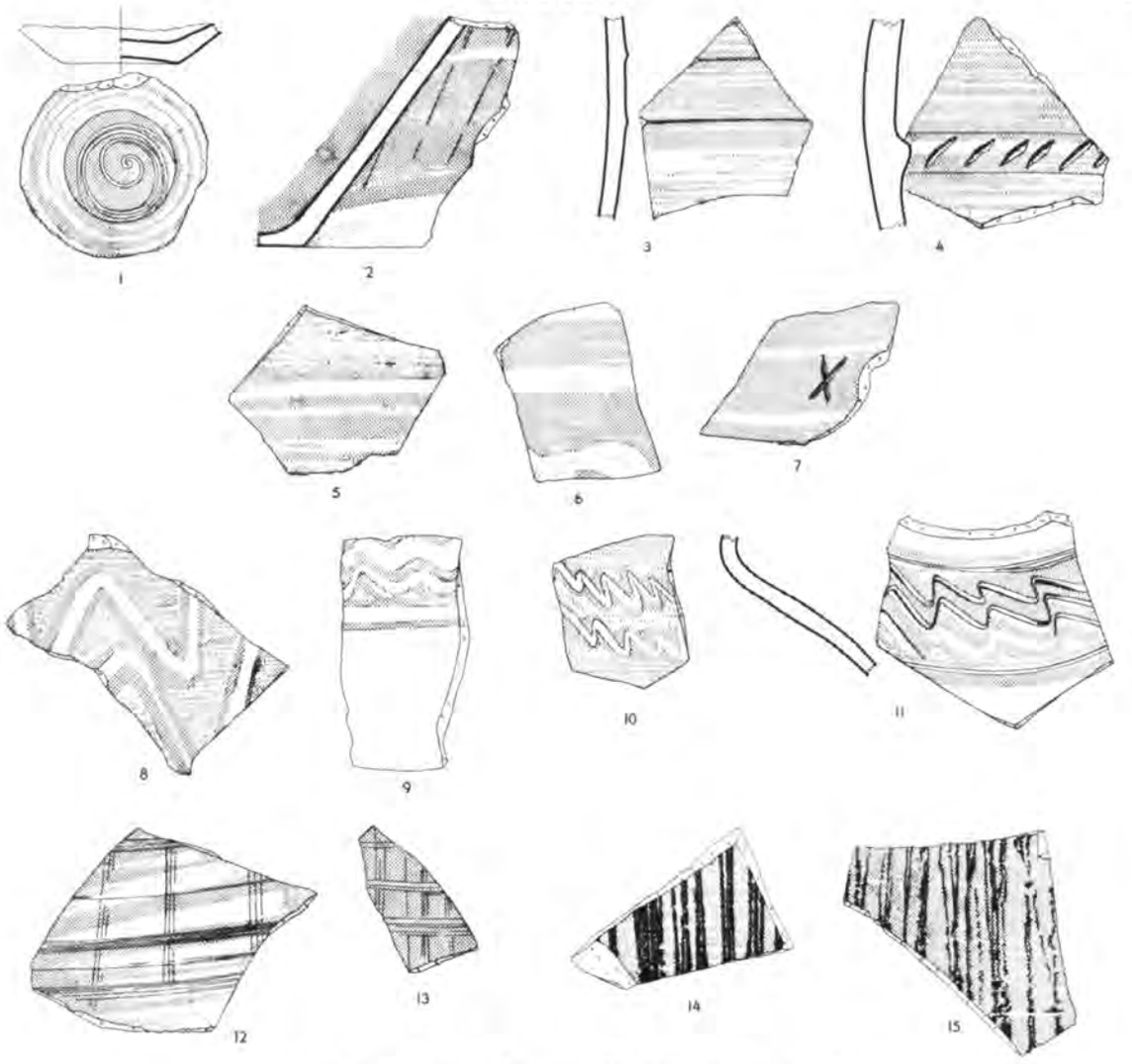


FIG. 347.—PHASE J. SMEARED-WASH WARE. SCALE, 1:3

Bases are almost without exception flat or slightly concave (Fig. 347:1–2; see also Fig. 345). They may be string-cut (Fig. 347:1), more or less ash-laid, or somewhat smoothed; whether or not the wash covers the base seems purely accidental. The only exceptional base treatment is the incising on the truncated conical cup sherd (Fig. 346:34).

Secondary features include ledge handles at or below the lips of bowls (Figs. 345:2 and 346:4). Both vertical- and circumflex- (Figs. 346:33 and 23) loop handles are present, as in Phase I; these are quite round in section. On the other hand, neither grooved-loop handles (cf. Fig. 319:28) nor cylindrical spouts appeared in the Phase J sherd sortings (cf. p. 417).

There are raised V-sectioned bands (Fig. 347:3, Pl. 47:5) and a unique case of a heavier plastic band with oblique impressions (Fig. 347:4). Impressed "potters' marks" (Figs. 345:3, 6, 346:1, and 347:7) also appear.

In regard to the smeared wash, little needs to be added to the previous description (p. 416). In many cases the smearing is hardly noticeable or appears only as streaks left by the tool used in applying the wash (see Pl. 89:3, of Second Mixed Range). There are now more cases of what amounts to patterned smearing. Some cases (Figs. 345:6 and 347:9, Pl. 47:4) are exceptional in that the wash was applied in broad bands rather than all over. In more typical cases (Fig. 347:5–8) an apparently allover wash is smeared in straight and wavy bands. The bands, espe-

cially the wavy ones, are usually wide enough to suggest that the smearing was done with the fingers. In certain unusual cases (Fig. 347:10–11, Pl. 47:3; see also Pl. 46:10, of Second Mixed Range) wavy bands were smeared with some sort of tool and with pressure almost sufficient to incise the clay surface under the wash. Examples such as these, of course, show the close relationship between the patterned-smear technique of decoration and the "white-on-black" wavy-band incisions of the Painted Simple Ware. Two sherds (Fig. 347:12–13) show a kind of shallow scoring of the surface under the wash with both horizontal and vertical lines. It is not clear whether these lines were made accidentally or purposely.

Almost half of the available sherds and whole-reconstructible pots show traces of usually open nonfunctional burnish (e.g. Figs. 345:3 and 347:14–15,[10] Pl. 45:1, 3). It is a question whether to consider the open burnish as decoration; in many cases the burnish strokes cause a markedly darker color than that of the normal surface (Pl. 45:3).[11] A few examples, especially lower open bowls (e.g. Fig. 346:1, 16 and Pl. 46:2, 6), have quite continuous, or functional, burnish which actually produced a smoothed and rather lustrous surface.

"Imported" Wares

The two wares accounted for here unquestionably come from Phase J findspots.

The first is represented by sherds of no more than three small wheelmade bottles, from Taʿyinat T 8:4. Figure 348 shows the most comprehensible sherd, with our suggested restoration. The fabric is very fine-grained and uniformly light gray. The surface also is light gray, and it is well smoothed; the vessel was evidently returned to the wheel for the uniform and open ring (actually flat spiral) burnishing.

A dark-faced wheelmade cup (Fig. 349), intact save for one of its two handles, is of rather fine grayish-buff clay with occasional large white inclusions. The outer surface and the inner lip apparently were treated with some sort of thin film; in any case, the cup is almost black (gun metal). The outer surface also shows open vertical burnishing. The piece comes from one of the storage pits let down from Taʿyinat T 8:3.

BAKED-CLAY OBJECTS

As in Phase I, there are few clay objects to describe. Those in the figurine category are of the finer buff clay of the contemporary Simple Ware (see pp. 406–8). A fragmentary mold for metal tools and a sling missile are of coarser clay, and an "andiron" is probably of Red-Black Burnished Ware clay (see p. 432).

The sling missile (Fig. 350:2) is of the prolate type so common in Phase E (see p. 204). Since the object in no way differs from those of Phases C–E and since it was found rather near the surface in Taʿyinat T 13, it was probably out of context (see p. 514, n. 106). But, since no sign of pottery earlier than Phase G appeared in any of the Taʿyinat sherd sortings, it is doubtful whether the sling missile could be extrusive from anywhere on Taʿyinat itself.

The mold (Fig. 350:1, Pl. 49:5) was a large block of clay, essentially square in transverse section, with somewhat burnished surfaces and molds for tools on each long side. The object is markedly heat-blackened from use. Unfortunately the preserved end represents the bit ends of the tools, so that it is possible only to guess at the types of tools which were cast in it. One side has two long narrow molds, perhaps for tools of the poker-spear type.[12] The next side has a single long narrow mold which is placed markedly close to one edge, so that there could

[10] Save in the case of these two sherds, drawn in full elevation, the presence of burnish is indicated only by the usual convention (see p. 37) on Figs. 346–47.

[11] The same effect was noted in the Metallic Ware of Phase H (see p. 370).

[12] Cf. F. Thureau-Dangin and Maurice Dunand, *Til-Barsib* ("Bibliothèque archéologique et historique" XXIII [Paris, 1936]) Pl. XXXI 1.

FIG. 348.—PHASE J. "IMPORTED" GRAY BURNISHED BOTTLE. ACTUAL SIZE

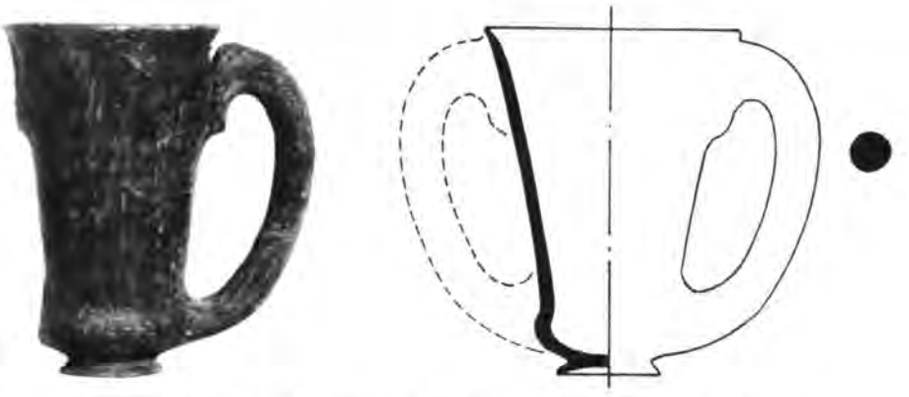


FIG. 349.—PHASE J. "IMPORTED" TROY IV TYPE CUP (T3759). SCALE, 2:5

have been room for a ferrule in the part now broken away; the tool produced may thus have been a sort of single-tined pick.[13] The third side has a broad mold, probably for a plain celt-like blade.[14] The broad mold in the fourth side was possibly for the same sort of tool. However, since it is nearer one edge than the other, there could have been room for a short ferrule of an ax[15] in the end now broken away.

[13] Cf. *ibid.* Pl. XXIX 5.

[14] Cf. *ibid.* Pl. XXX 13.

[15] Cf. *ibid.* Pl. XXIX 8, but with a shorter ferrule.

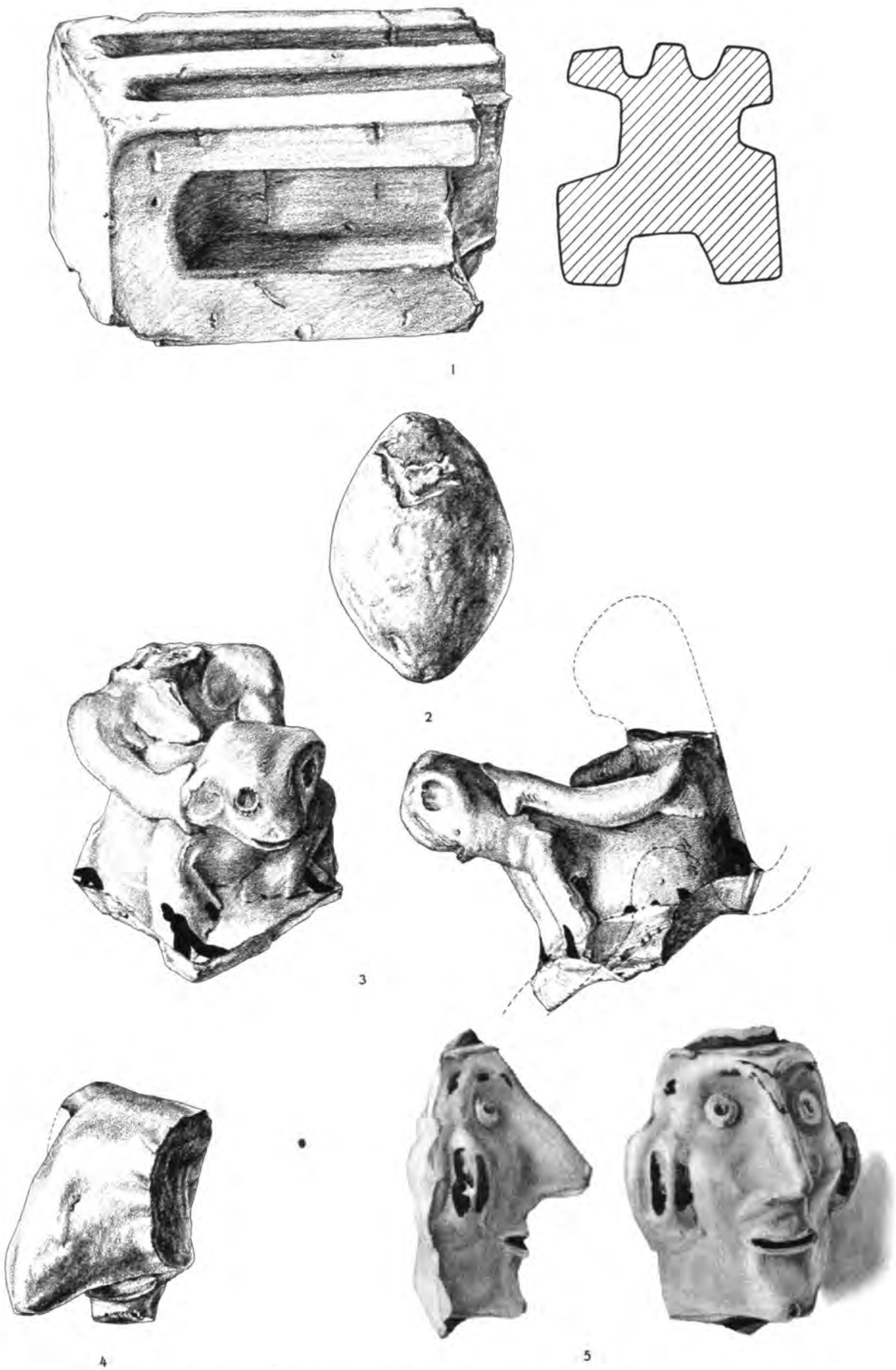


FIG. 350.—PHASE J. BAKED-CLAY OBJECTS. SCALES, 1:2 (*1*) AND 1:1

There is only one proper figurine, the posterior of a quadruped (Fig. 350:4). The male genital organs are indicated by an added pellet.

Two painted finger-molded fragments were originally parts of pots; both clay and paint are normal to the Painted Simple Ware. One fragment appears to represent a human face (Fig. 350:5, Pl. 50:12), possibly from some sort of bottle. It is quite carefully molded, with pierced pellet eyes, large thin nose, high cheek bones, and cleft chin. What is left of the original inner surface of the vessel indicates that the lip was very sharp; a small portion of it is still intact above a band of paint about the forehead. The second fragment seems to represent the upper part of a human being astride a quadruped, perhaps a frog (Fig. 350:3, Pl. 50:11). The head of the human is missing, and only one long conical breast is preserved. The mouth and eyes of the animal are stick-impressed. The whole mass rises from what appears to be a shoulder sherd of a jar; a deep finger impression extends from the inner surface of the sherd up into the animal. There are traces of painted decoration on the inside and the outside of the sherd and on the back of the human. The fact that there is paint on the inside argues for a jar with a wide mouth. The deep finger impression may indicate an attempt to pierce through to the mouth of the animal to form a spout.[16]

The "andiron" (Fig. 333:5) is apparently of a new type (see p. 432).

METAL OBJECTS

Ten metal objects are available from Phase J, most of them quite well preserved. All are of copper-based metal. No reamers appeared.

A simple symmetrical knife or dagger blade (Fig. 351:6, Pl. 54:2) is straight-edged and quite broad at the haft end; the tang is short. There are a pair of rivet holes at the base of the blade and a hole with a copper-based rivet still in place in the tang. The base of the blade shows impressions of parts of the wooden haft. It may be noted that there is no perceptible central ridge.

A shaft-hole ax (Fig. 351:9, Pl. 52:10) is competently cast. The blade and parts of the ferrule are unfortunately somewhat oxidized; the portions of the original surface which remain on the ferrule indicate that the object was burnished and then finely polished. The two rims of the ferrule have bead moldings, and the shaft of the ferrule is decorated with four shallow grooves. The rim of the upper opening has a sort of horn or vertical lug directly opposite the blade; this lug bears three incised lines.

Two pins appeared (Fig. 351:1–2, Pl. 53:1–2). The heads are of the simple flattened and rolled type, which is evidenced as early as Phase G (see p. 298). One has a vertical slot cut into it.

Toggle pins now appear for the first time. There are two examples with domed head (Fig. 351:3–4, Pl. 53:10, 9). The eye is cut through the shaft well below the head, and one example is decorated above and below the eye and just below the head with horizontal grooves. An enigmatic "giant pinhead" (Fig. 351:8, Pl. 52:9) is mentioned here because its general proportions seem to follow those of the toggle pins. The object is broken at the eye.

Two needles appeared. One (Fig. 352:2) is of the same type as that found in Phase I (see p. 421 and Fig. 324:7). When examined in detail, the eye may be seen to have been prepared in an ingenious way. The butt end was apparently first beaten out into a rather thin wire *ca.* 30 mm. long. The shaft immediately below the wire seems to have been hammered vigorously enough to form a winglike projection on either side. The wire was bent back so that its tip rested on the shaft between the wings, which were then cold-forged about the shaft to cover the tip. The wire thus seems to disappear into a slot in the needle, and the result is a very serviceable eye. Figure 352:1 illustrates these steps in a reproduction of the process done on

[16] Cf. *ibid.* p. 105, No. 20.

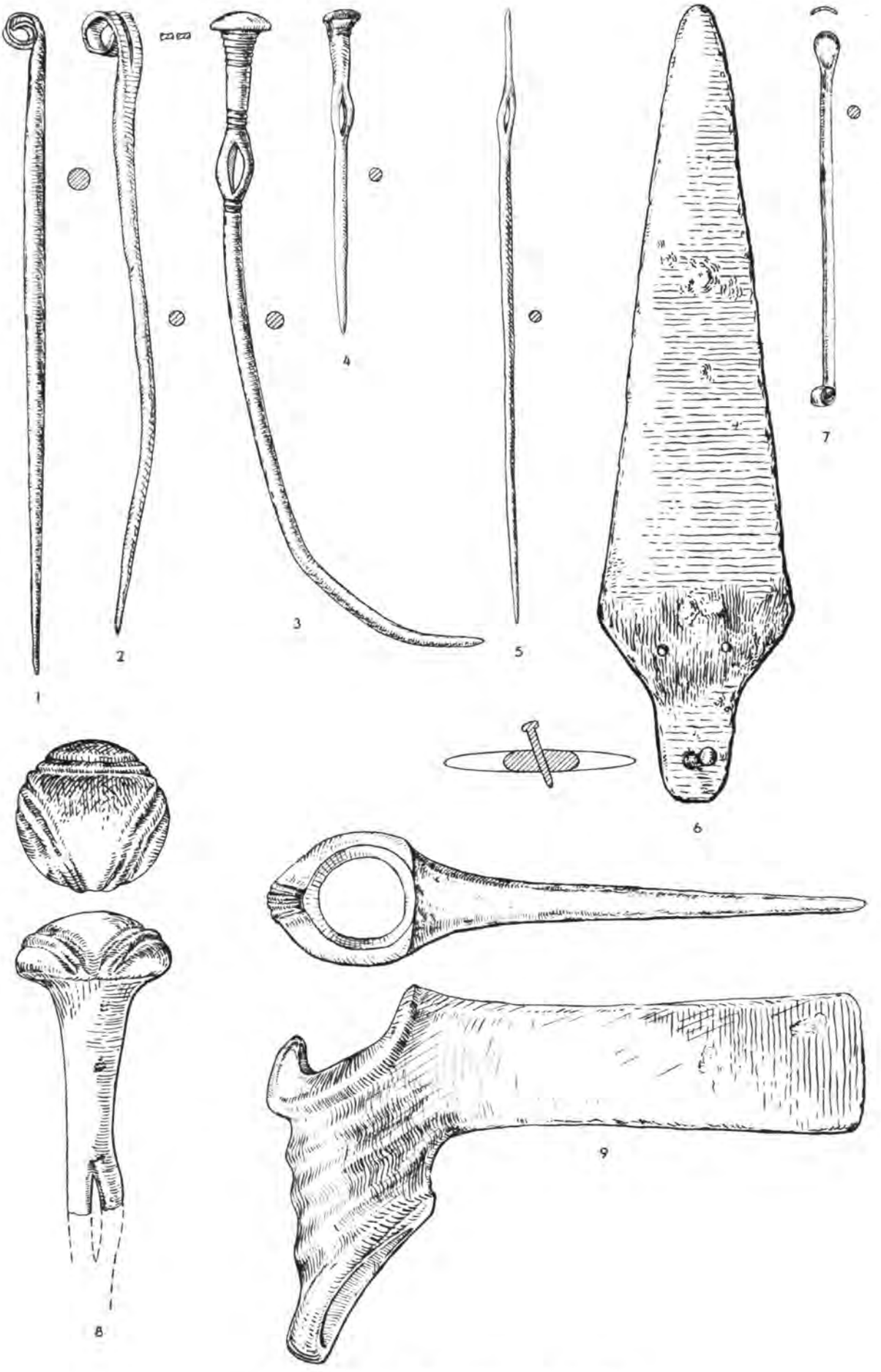


FIG. 351.—PHASE J. METAL OBJECTS. ACTUAL SIZE

FIG. 352.—PHASE J. METAL NEEDLE (*2*) AND MODERN WIRE (*1*) USED TO ILLUSTRATE ITS METHOD OF MANUFACTURE. ACTUAL SIZE.

a piece of copper wire. The second needle (Fig. 351:5, Pl. 52:12) consists of a simple shaft, quite pointed at both ends, with a simple slot eye cut into it.

An object with a simple rolled head (Fig. 351:7, Pl. 53:16) is presumably an ear-spoon of the type familiar from toilet sets found in Mesopotamia.

Spectrographic analyses showed concentrations of elements as follows:

T3340 Major: copper, nickel, tin; minor: antimony, arsenic, iron; other traces weak (Fig. 351:8, Pl. 52:9)
T3370 Major: copper; minor: arsenic, iron, nickel, tin; other traces weak (Fig. 351:5, Pl. 52:12)
T3373 Major: copper, nickel; minor: antimony, arsenic, iron; other traces weak (Fig. 351:2, Pl. 53:2)
T3374 Major: copper, tin; minor: arsenic, nickel; other traces weak (Fig. 351:9, Pl. 52:10)
T3544 Major: copper; minor: arsenic, iron, nickel, tin; other traces weak (Fig. 351:3, Pl. 53:4)
T3599 Major: copper; minor: arsenic, iron, nickel; other traces weak (Fig. 351:1, Pl. 53:1)
T3793 Major: copper, iron; minor: arsenic, nickel, silicon, tin; other traces weak (Fig. 351:7, Pl. 53:16)
T3799 Major: copper; minor: arsenic, iron, nickel; other traces weak (Fig. 352:2)
T3800 Major: copper, nickel; strong: arsenic; minor: iron; other traces weak (Fig. 351:4, Pl. 53:3)

FLAKED STONE OBJECTS

So few flints were found in Phase J context that there is a real question as to whether the Phase J people were still working flint or just making occasional use of worked flints found in the area.

The three flints available from Phase J context[17] served as sickle blades. All are broad middle sections, portions of large Cananean blades. They measure 67 × 29, 62 × 33, and 25 × 30 mm. Two have sheen along both edges. In one example (Fig. 353) the edges are denticulated by use. In the second example the denticulation is formed by fairly neat nibbling retouch along one edge, by neat deep retouch on the opposite edge (as in Fig. 325:5). The third artifact is a small fragment of a sickle blade. It is not retouched but is roughly denticulated by use on one edge. There is nothing to distinguish these examples from Phase I sickle blades.

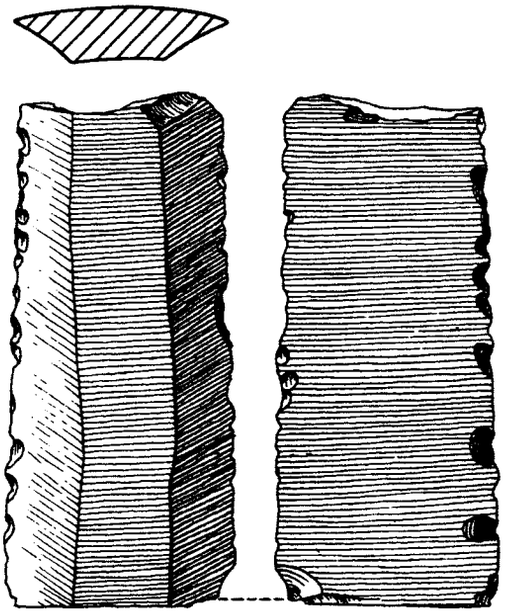


FIG. 353.—PHASE J. FLINT SICKLE BLADE (T3582). ACTUAL SIZE

GROUND STONE OBJECTS

VESSELS

There are two containers from this phase, about which we have no more information than that given in the field register. A bowl with circular plan and shallow basin (T3444) was discarded. A rectangular (see p. 214) rubbing basin (T3445) is now in the Antioch Museum.

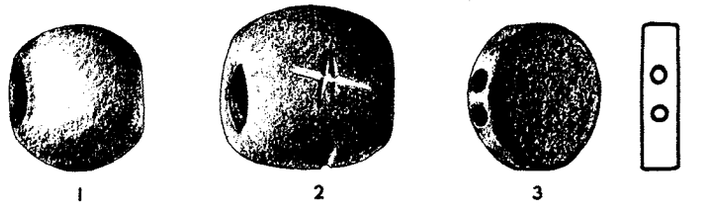


FIG. 354.—PHASE J. STONE BEADS. ACTUAL SIZE

BEADS

Two of the three beads are globular (Fig. 354:1–2). Both are well shaped, with large apparently single-bored perforation, but have little final polish. No. 2 is incised with a crude crosslike motif (illustrated) and a short deep line parallel to the ends. A carefully made flat bead has two double-bored perforations (Fig. 354:3, Pl. 70:11).

[17] A fourth flint tool (T3547) is missing. It is registered as a sickle fragment.

Stone Identifications

VESSELS

T3444 discarded; material not analyzed
T3445 in Antioch Museum; material not analyzed

BEADS

T3315 weathered rusty chlorite-rich greenstone (Fig. 354:1)
T3339 lazurite, n = *ca.* 1.500 (Fig. 354:3, Pl. 70:11)
T3371 weathered rusty chlorite-rich greenstone (Fig. 354:2)

XIII

THE SECOND MIXED RANGE AND TYPOLOGICALLY EARLY FINDS FROM MISCELLANEOUS CONTEXTS

INTRODUCTION

THE Second Mixed Range is a device for classifying materials typologically assignable to Phases H–J which come from immediately subsurface and from deep wall-tracing operations. The floors and findspots involved are indicated in our General Introduction (chap. i) under the descriptions of the various excavated sites (see also Table I).

Unstratified objects, especially in the stone and bone categories, which are typologically assignable to any phase from A through J are also described in this chapter. We even include here a flint sickle blade (Fig. 373:5) and the most obvious examples of early stone seals which appeared in post-J phases.

The pottery and two stone beads (Fig. 36:6–7) from Dhahab, where hurried operations revealed a somewhat strange stratification (see p. 15), are described under the phases where we feel certain they belong. The rest of the Dhahab material is discussed in this chapter. Here the number of phases involved is limited to three, or four at the most (Phases A, F, and H, or G plus H).

The objects described in this chapter, for the most part of types otherwise known in Phases A–J, are included for the sake of completeness and to demonstrate interesting typological variations. We can guarantee their assignment to specific phases only in so far as we might guarantee our own comparative archeological judgment. They are classified on purely typological grounds, and the reader should accept them as such and no more.

ARCHITECTURE

Obviously, no architecture can be very positively claimed for the Second Mixed Range. We have no full building plans for the phases (H–J) which it represents.

Scraps of buildings exposed in Judaidah JK 3:2–1 (Figs. 355–56) may well represent late Phase I or Phase J, but there is no positive way of telling, for the sherd sortings from these floors were mixed and no details of the structures suggest their date. A well built *libn* silo was let down from JK 3:2 (Fig. 357).

Well built *libn* walls were, of course, cut through during the tracings of the deep "Syro-Hittite" foundations on Ta'yinat (see p. 13); while their absolute depths and associated pottery indicate that they are almost certainly of Phase I or J, they yielded no significant information.

POTTERY

The examples shown here represent the main wares of the phases (H–J) involved in the Second Mixed Range and are meant simply to illustrate unusual specimens and in some cases more complete examples than those found in proper contexts. Many have already been mentioned under the pertinent phases. The sherds are from Ta'yinat unless labeled *J* (for Judaidah).

Figures 358–59 (also Pls. 33:3–4, 36:8, 11, and 37:2, 7) show examples of Red-Black Burnished Ware, which characterizes Phases H and I. There is a fragment (Fig. 358:5) of a mag-

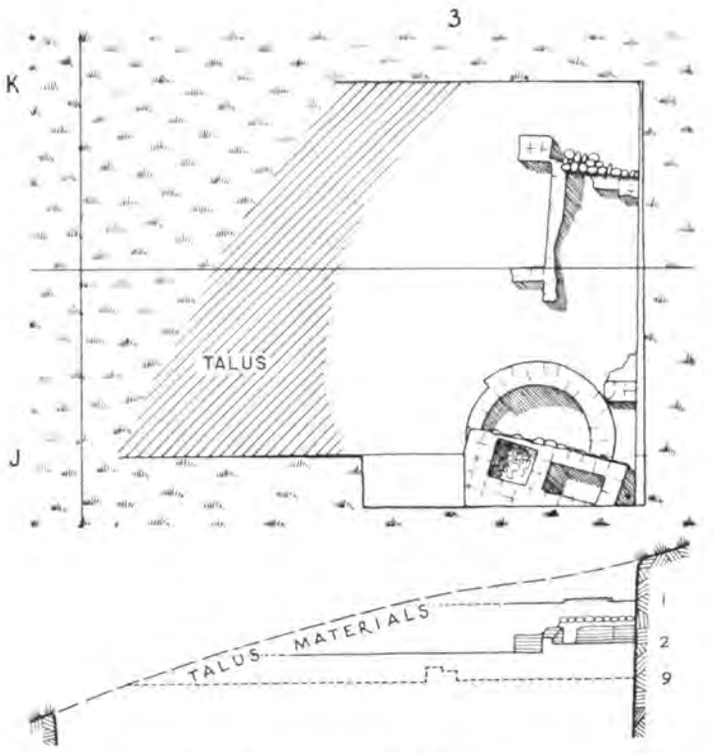


FIG. 355.—SECOND MIXED RANGE. PLAN OF JUDAIDAH JK 3:2 AND SECTION OF JK 3:2–1. SCALE, 1:200

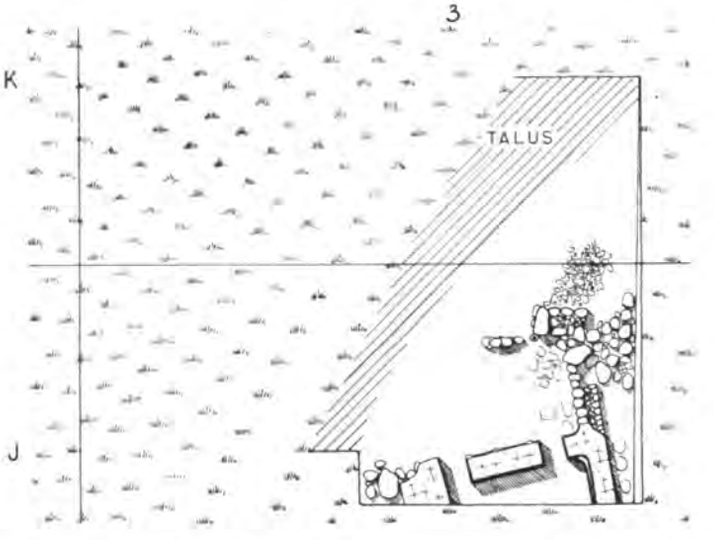


FIG. 356.—SECOND MIXED RANGE. PLAN OF JUDAIDAH JK 3:1. SCALE, 1:200

nificent krater-like vessel with carefully executed plastic bands and fluting (cf. p. 368). The lids (Figs. 358:6–8, 359:2, 4 and Pl. 37:2, 7) illustrate the whole profile and also something of the decoration (cf. p. 368). One of the sherds (Fig. 359:4) bears a strange incised motif. The incised decoration on a bowl sherd (Fig. 359:1) may originally have been white-filled. A fragment of a flaring cylinder (Fig. 359:3), probably of the type shown on Figure 306:4 (see p. 364), indicates an unusually small diameter in the constricted mid-section. A jar sherd (Pl. 36:11) shows plastic decoration.

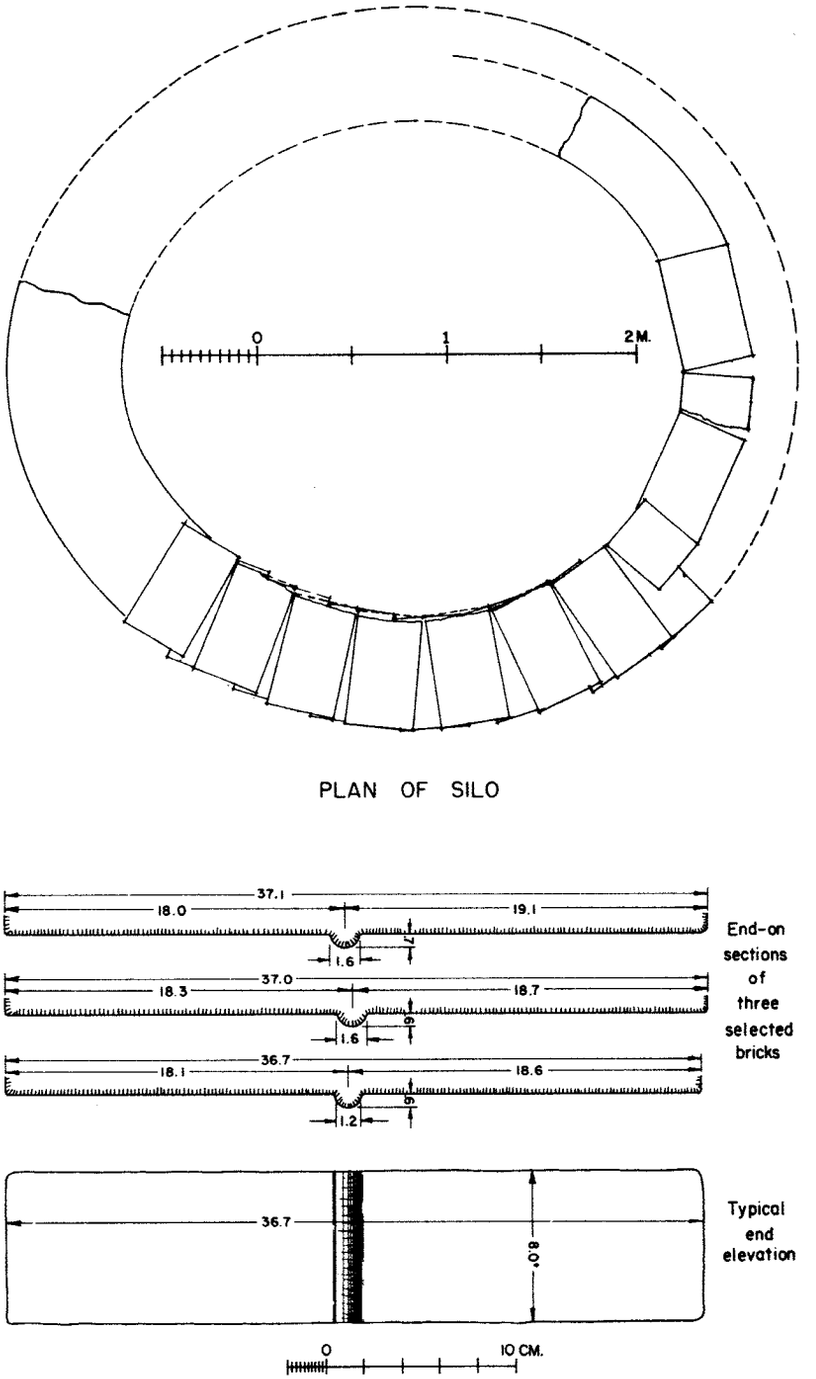


FIG. 357.—SECOND MIXED RANGE. PLAN AND DETAILS OF SILO LET DOWN FROM JUDAIDAH JK 3:2

Figure 360 (also Fig. 334:25) shows a base sherd of unclassified cooking-pot clay such as occurs in Phases I–J. It is from a bowl with purposely pitted bottom (cf. p. 432 and Fig. 334:22–24).

Figures 361–62 (also Pls. 40:3, 5 and 47:1) show Simple Ware profiles, most of which have whole-reconstructible or fragmentary counterparts in Phase I or J. The only really unique vessel here is a tall open jar (Fig. 362:9), whose profile is not represented in any of the sherd samplings.

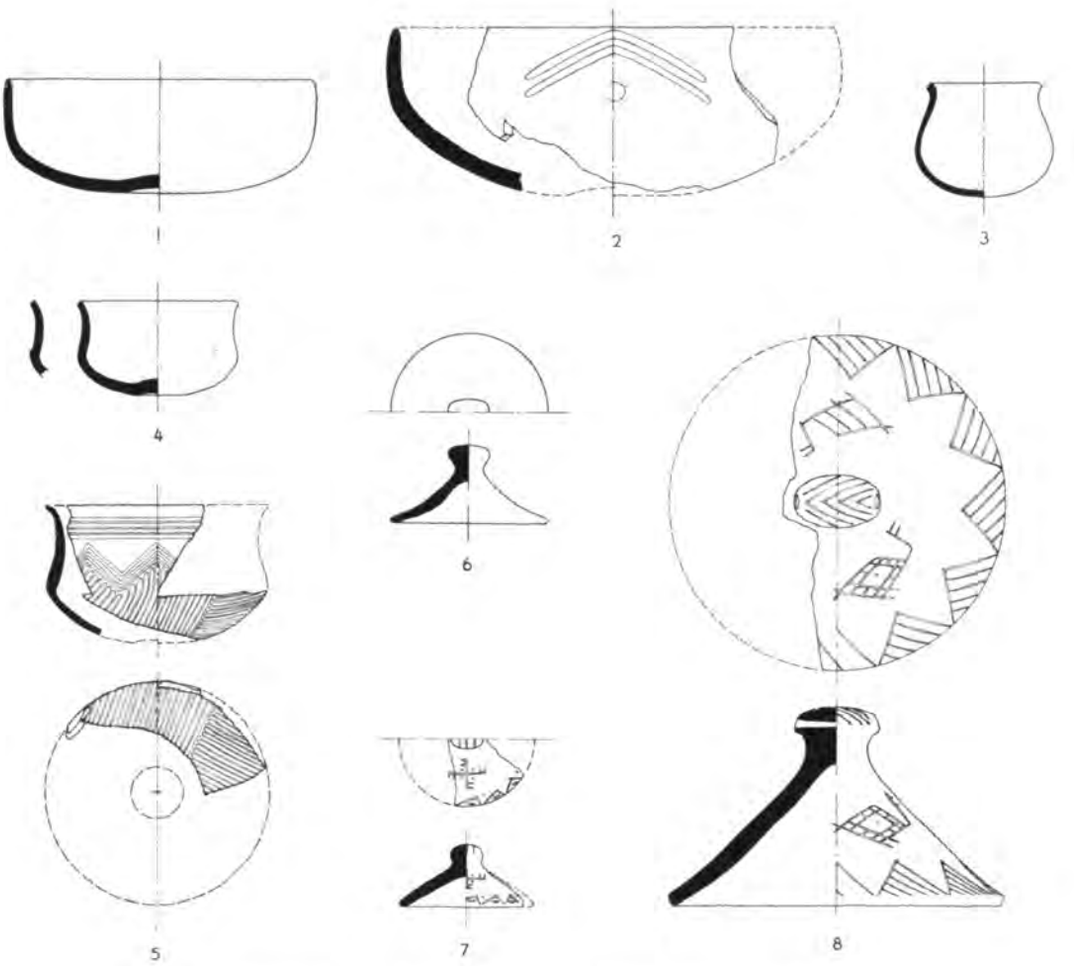


FIG. 358.—SECOND MIXED RANGE. RED-BLACK BURNISHED WARE. SCALE, 1:5

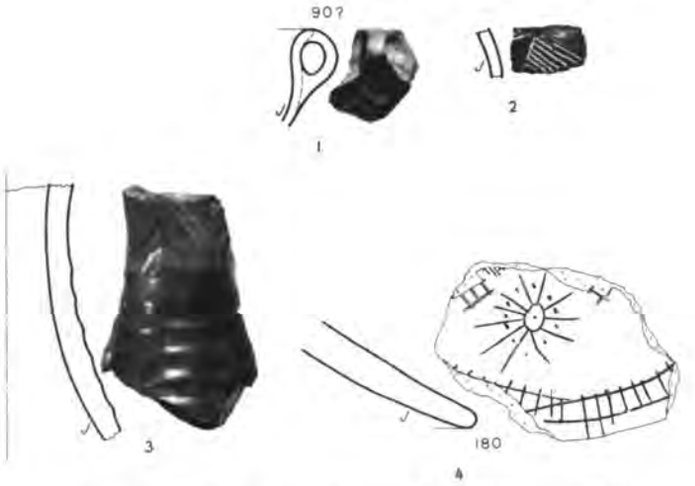


FIG. 359.—SECOND MIXED RANGE. RED-BLACK BURNISHED WARE. SCALE, 1:3.

FIG. 360.—SECOND MIXED RANGE. BASE SHERD OF COARSE CLAY. SCALE, 1:3.

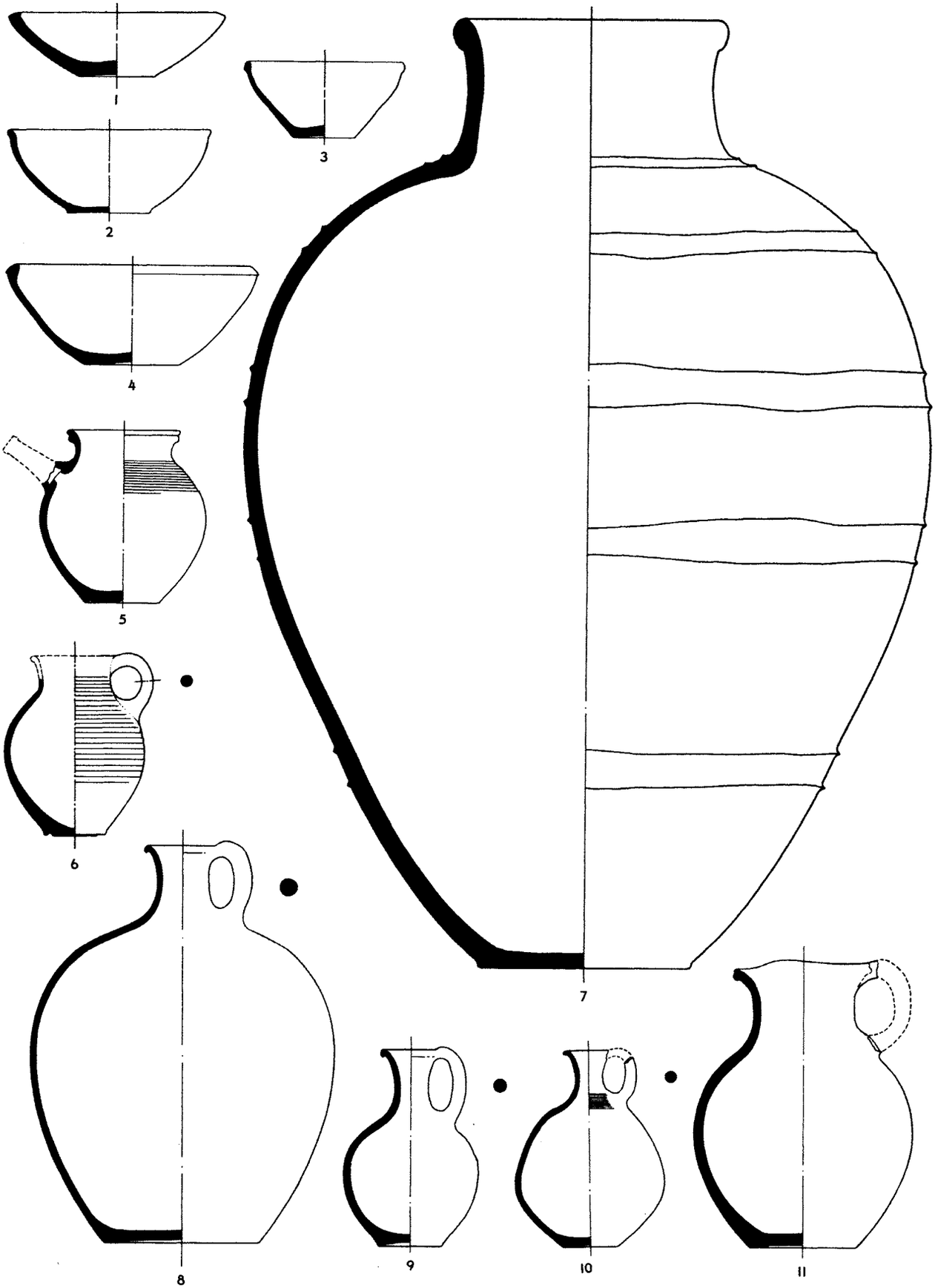


FIG. 361.—SECOND MIXED RANGE. SIMPLE WARE. SCALE, 1:5

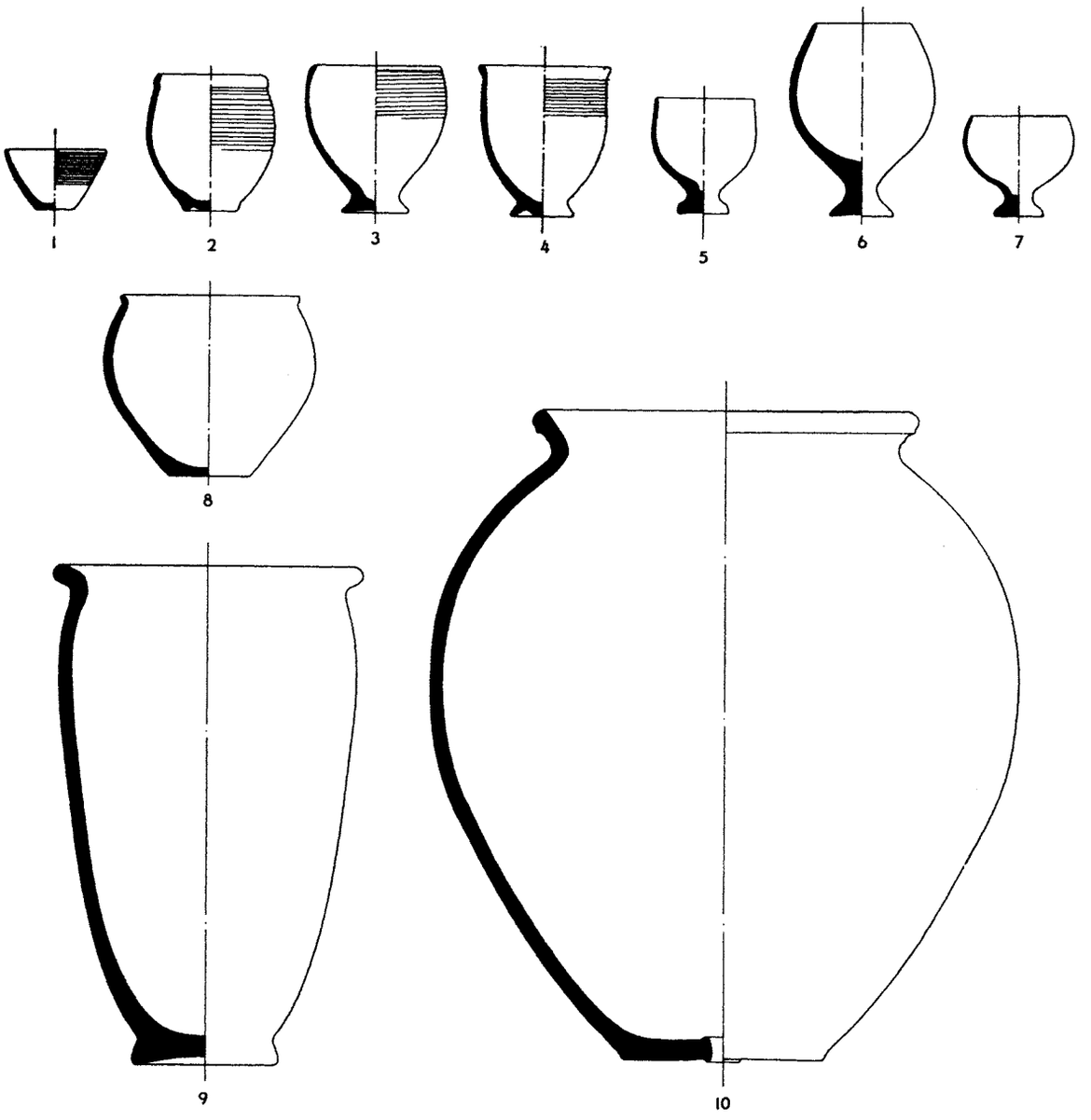


FIG. 362.—SECOND MIXED RANGE. SIMPLE WARE. SCALE, 1:5

Figure 363 shows sherds of large open-mouthed jars with modeled lips and fairly elaborate comb-incised decoration. These are most probably later even than Phase J. Both pieces come from Taʿyinat, where our operations indicated no established architectural occupation between Phase J and Phase O. It seems most likely that they refer to pots used by some farmer or shepherd on Taʿyinat during the time of Tell ʿAtshanah's *floruit*. Our guess would be that they pertain to Phase K or L; similar examples appeared in this range on Judaidah, which was certainly occupied during those phases. The only pertinence in showing these pieces here is that the tradition for comb-incised decoration on Simple Ware begins in Phase J (see p. 441). It is possible that they represent the very end of Phase J; it is more likely that they should be assigned to Phase K or L.

Figures 364–65 (also Pls. 44:2–3, 89:2) illustrate Painted Simple Ware. There is nothing in this lot which is not represented in Phase I or J, albeit perhaps by less clear examples, or

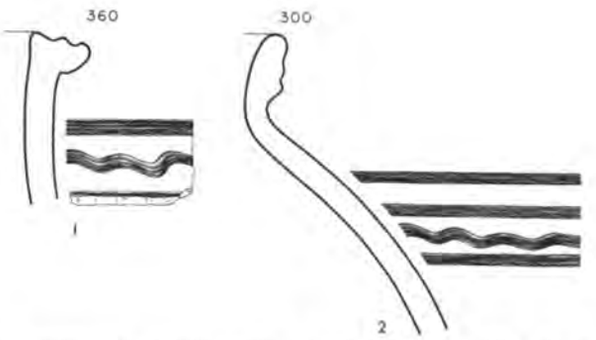


FIG. 363.—COMB-INCISED JAR SHERDS, PROBABLY OF PHASE K OR L. SCALE, 1:3

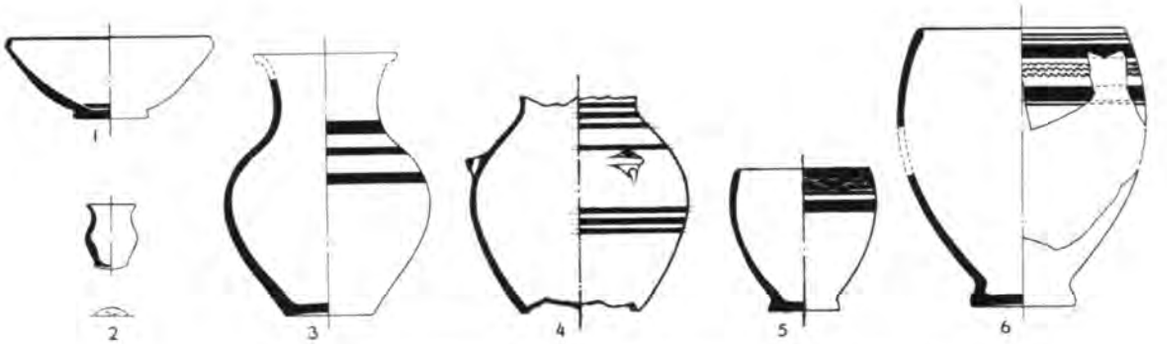


FIG. 364.—SECOND MIXED RANGE. PAINTED SIMPLE WARE. SCALE, 1:5

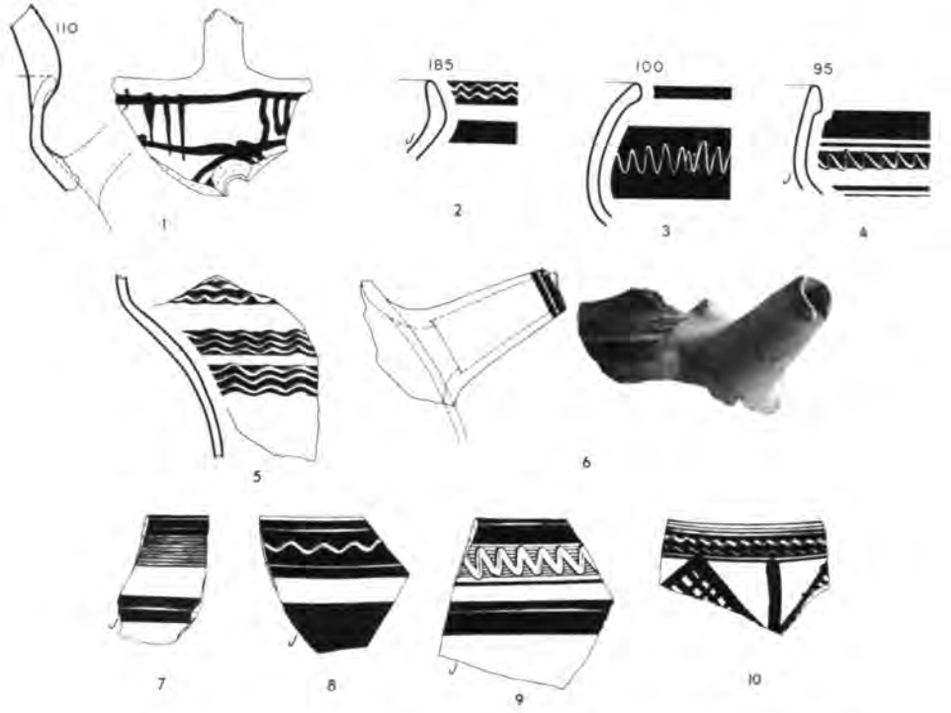


FIG. 365.—SECOND MIXED RANGE. PAINTED SIMPLE WARE. SCALE, 1:3

which could not be imagined as belonging in Phase I or J. Thus a cylindrical spout from a jar with wavy incision through paint (Fig. 365:6, Pl. 44:3) is no surprise even though examples of such spouts do not happen to be available from proper Phase J contexts. The piece shows quite clearly (see Pl. 44:3) that the jar was decorated before the spout was added, obviously because the spout would have been in the way when the jar was returned to the wheel to be decorated.

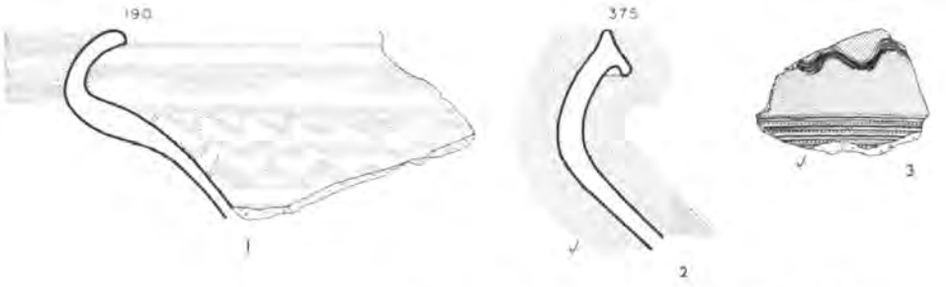


FIG. 366.—SECOND MIXED RANGE. SMEARED-WASH WARE. SCALE, 1:3

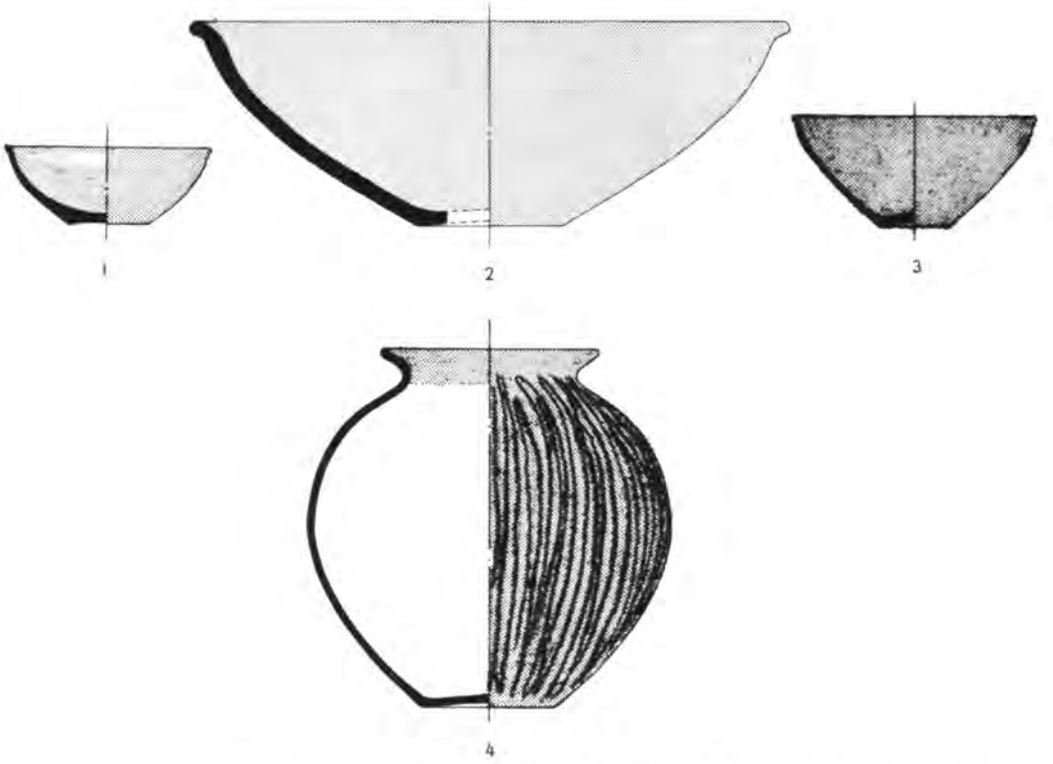


FIG. 367.—SECOND MIXED RANGE. SMEARED-WASH WARE. SCALE, 1:5

Smeared-Wash Ware is illustrated on Figures 366–67 (also Pls. 46:3, 7, 10, 11 and 89:3, 5, 7). There is a very good example of patterned smearing (Fig. 366:1, Pl. 46:7), also one of a plain washed surface on a jar with sharply modeled lip (Fig. 366:2, Pl. 46:11). The outer surface of a somewhat unusual sherd (Fig. 366:3) is completely covered with dark (almost black) wash or paint, through which wavy and plain bands are comb-incised. No other examples of exactly this sort of technique on sherds of larger jars occurs, but the experiment (if it is that) is hardly surprising in this ware (cf. p. 450 and Fig. 347:10–11, also Pl. 46:10).

BAKED-CLAY OBJECTS

The available small clay objects are mainly figurines. Only the better preserved examples are discussed and shown here.[1] It is possible to assign most of them to phases on typological grounds.

The monstrous-headed class of figurine with pinched face is represented by several examples, all of clay like that of the Phases I–J Simple Ware. All are from the Second Mixed Range except for one unstratified specimen. The latter (Fig. 369:2, Pl. 50:8) is a head. Added pellets form eyes and bangs, and there is a bun of hair at the back of the neck. Another head (Fig. 368:2, Pl. 50:7) has pierced pellet eyes which give the effect of concentric circles. Impressed rolls of clay indicate tresses on either side of the face, and a row of small contiguous pellets indicates additional tresses. A great bun of hair at the back of the neck is represented by clay impressed with small circles. A third example (Fig. 368:5,[2] Pl. 50:6) is more complete and has painted decoration. Opaque black paint accentuates the eyes, the coiffure, the necklace, and the preserved wristlet and forms shoulder bands and a belt. The eyes are impressed pellets. The face is flanked by thin flat rolls of impressed clay, and a crest of pellets surmounts these. A long bun of hair at the back of the neck is only partially intact and was decorated with pellets as well as paint. The necklace was formed by alternating rolls of clay and rows of pellets, but only one of the pellets of the lower row is intact. The breasts were rendered by pellets. The preserved arm shows no details except a roll of clay at the wrist. A depression indicates the navel. A perforation at the top suggests suspension. A headless column-like figurine (Fig. 370, Pl. 50:10) no doubt represents the monstrous-headed type, though no details are rendered below the waist except for a slight flare at the base and a long roll of clay with fingernail impressions on the back. A roll of clay at the neck is elaborated with an elongated pellet between two round pellets. There is a roll of clay suggestive of a wristlet on each stubby arm. The breasts are rendered by pellets. Another figurine fragment (Fig. 368:4, Pl. 50:9) is no doubt of the monstrous-headed class. One arm is intact, and the hand seems to be indicated by a pinched pellet which projects slightly. Three flattened rolls of clay, covered with fairly deep impressions in sets of three, accentuate the front.

A figurine fragment from Dhahab (Fig. 369:1, Pl. 50:14) represents the legless mother-goddess or "fiddle" type. It is not burnished, and the surface color varies from dull orange-buff to dark gray. The clay could be of either the Phases A–B Dark-faced Burnished Ware type or the Phases H–I Red-Black Burnished Ware type. Both wares are present on Dhahab, but the object is assigned to Phase H because it has bold impressions with traces of white fill, a feature which is characteristic of Phase H pottery (see p. 361) but not of Phases A–B pottery. The navel is represented by a pellet with impressed hole. The finger-molding and the impressions are crude in comparison to the workmanship of the monstrous-headed figurines of Phases I–J Simple Ware type clay.

A fragmentary bovine figurine from Dhahab (Fig. 368:3, Pl. 51:1) is of clay like that of the Phases G–H Plain Simple Ware. Actually the clay of this ware is not very different megascopically from that of the Phases I–J Simple Ware. However, since no pottery of Phases I–J appeared in the Dhahab sortings, it is probably safe to consider this figurine as of Phase G or H. The unbroken original must have been a very fine animal with great broad horns. The pellet eyes have deep round impressions in their centers. The object is well modeled and finely smoothed. An unstratified figurine from Judaidah (x4015) evidently represents this fine bovine type. Two other figurines, one unstratified (x4014) and one from the Second Mixed Range (x1507), are of the small bovine type which appears in Phases H–I (see Figs. 289:2

[1] A fair number of fragmentary or "less interesting" clay objects are accounted for only in the field registers.

[2] Drawn with one arm, one breast, and lower parts of headdress and necklace restored (cf. Pl. 50:6).

FIG. 368.—BAKED-CLAY OBJECTS: SECOND MIXED RANGE (*1, 2, 4, 5*), DHAHAB (*3*). ACTUAL SIZE

FIG. 369.—BAKED-CLAY OBJECTS: SECOND MIXED RANGE (*3–6*), DHAHAB (*1*), UNSTRATIFIED (*2*). ACTUAL SIZE

Fig. 370.—Second Mixed Range. Baked-Clay Figurine (T3533). Actual Size

and 323:1). The Second Mixed Range specimen is of coarse orange-buff clay which does not correspond to that of any normal ware. A painted ram's head from the Second Mixed Range (Fig. 369:3) is of a simple clay which may be a later type than that of Phases I–J.

A whorl from Dhahab (D68) is of a shape which is atypical for the early ʿAmuq, but a similarly shaped stone specimen comes from the First Mixed Range at Judaidah (see p. 125 and Fig. 98:3). The Dhahab whorl is of reddish clay which does not suggest any particular ware.

A tablike finger-molded fragment from the Second Mixed Range (Fig. 368:1) is of clay like that of the Phases I–J Simple Ware. It is thin and slightly curved when seen from the side. A carefully worked chevron pattern is impressed on the front. No guess is offered as to the use or the nature of the complete object.

A sherd from the Second Mixed Range, of very coarse and poorly baked clay, shows an incomplete cylinder seal impression (Fig. 369:4, Pl. 49:13). A small unbroken area on the under surface vaguely suggests that a pad of clay was pressed over the top of a pitcher with pinched pouring lip and then lightly baked. Not much can be made of the impression save that it seems to conform to the rather deeply and broadly engraved type of design which Frankfort thinks was carved on wooden seals.[3] But, in contrast to the impressions from Phase G (see p. 296), this impression was probably not made by a wooden seal.

A miniature wheelmade jar from the Second Mixed Range (Fig. 369:5) is of clay like that of the Phases G–H Plain Simple Ware.

An elongated biconical pendant with fishlike tail at the top (Fig. 369:6) is of the same type of clay. It has counterparts in Phase G (see p. 296 and Fig. 238:2) but should probably be attributed to Phase H on the basis of its findspot (Second Mixed Range).

Some of the large number of "andiron" fragments from the Second Mixed Range are shown on Figure 290 (Nos. 7, 8, 13, 14). These are of Red-Black Burnished Ware clay and differ in no way from those of Phases H–I (see pp. 372 f.).

METAL OBJECTS

All the objects described here are from the Second Mixed Range. The only two which were analyzed are of lead. The others are of copper-based metal. A plain bronze(?) ring (T3740) from burial T S 24 (see p. 497) was apparently discarded in the field without being catalogued.

Several of the objects have typological counterparts in Phase I or J. A reamer (Fig. 371:1) is somewhat exceptional because of its rather long thin round-sectioned tang. Three pins (e.g. Pl. 53:3) are of the rolled-head type found in Phase J (see Fig. 351:1). A toggle pin with domed head (x1703) has a counterpart in Phase J (see Fig. 351:3), as does a double-ended needle (T3536; see Fig. 351:5). A fine dagger blade (Fig. 371:5, Pl. 54:4) comes from a shallow trench (TT 6) above Judaidah JK 3 whose few available sherds represent Phase I. The blade has a central ridge and two slots to aid in hafting; the short square-sectioned tang terminates in a sharp angle.[4] Two fragmentary earrings (Fig. 371:2 and Pl. 52:14, 16) are of a type which evidently persists for some time. Their findspots yielded sherd sortings quite clearly of Phases I–J.[5]

The two lead objects are enigmatic. One is a rather simple cone with a central hole which does not reach the top (Fig. 371:3). The second is a strange T-shaped object with gently pointed end and pierced arms (Fig. 371:4). Their findspots are not reliable. These objects may be as late as Phase O but have no typological counterparts in that phase.

[3] See Frankfort, *Cylinder Seals*, pp. 230–31.

[4] This blade is of a type well known in the Til Barsib hypogeum.

[5] Earrings of this type were found in tomb IV at Qatna. This tomb material is of Phase I type.

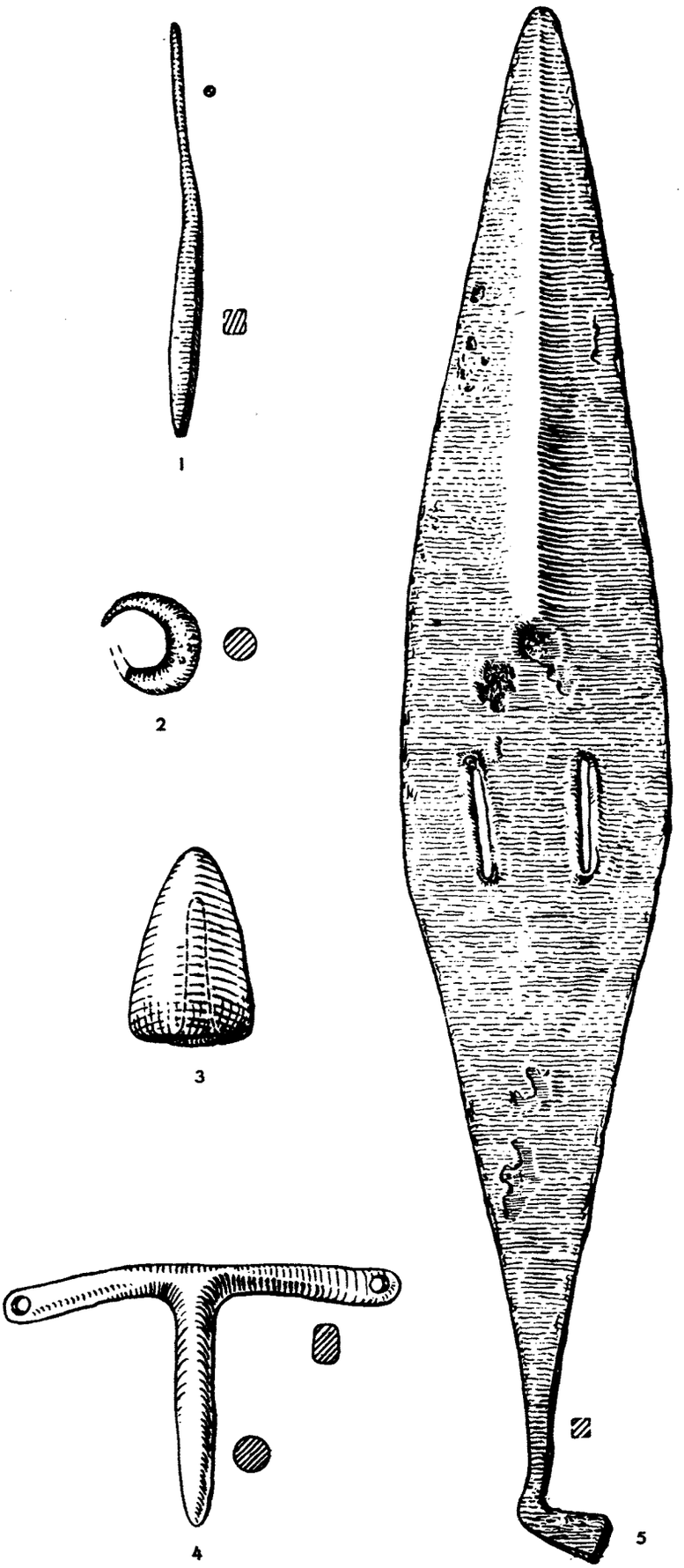


FIG. 371.—SECOND MIXED RANGE. METAL OBJECTS. ACTUAL SIZE

FLAKED STONE OBJECTS

Flints of the Second Mixed Range

This is a miscellaneous assortment, including one sickle blade from post-Phase J context. Most of this material refers to the three phases (H–J) involved in the Second Mixed Range, but there are some survivals from earlier phases. Quite a variety of tool types is represented (see Table V). According to the meager evidence from Ta'yinat, Phases I and J are practically devoid of tool types other than large sickle blades made on Cananean blade sections. We may not have a complete picture of the flint-working of Phases I and J, but we are bound to respect the only evidence available at present. Thus the other tool types in this group, by and large, probably refer to Phase H.[6] The few which are not mentioned in the descriptions below need no special comment but are accounted for in Table V.

PROJECTILE POINTS

The only arrowhead (Fig. 372:3) is a very thin beautifully made specimen, covered by neat flat retouch on both faces. One wing tip is broken off. Its general shape is rather like that of the two arrowheads from Phase H (see p. 380 and Fig. 294:2–3), but by comparison the latter are of very crude workmanship. For that matter, the Phase H retouch in general tends to be rather poor. The excellent workmanship of this specimen suggests a very early date of manufacture. Excavated materials indicate that arrowheads are extremely rare in the 'Amuq during the phases dealt with in this volume, and at present we are unable to date this handsome specimen. When it was sent to Mrs. Payne, along with other flints, it was included as part of the Phase H material. Her interesting comment, which was of necessity deleted from her text, is as follows:

> The very neat arrowhead may be intrusive; arrowheads of this type have not so far been found in Palestine after the end of the Mesolithic period;[7] but it is impossible to be certain on this point till more work has been done on corresponding periods in Syria.

Two other projectile points are much larger. One is an expanded tang fragment of a Phase A or B javelin head with excellent fluting retouch covering the upper face and the lower end of the tang itself on the bulbar face. The tip of the second larger projectile point (Fig. 372:1) is missing. There is crude irregular retouch on the upper face over the tang end. The illustration unfortunately conveys an impression of greater regularity and better workmanship than is warranted. A few facets are removed from the tang on the bulbar face. This projectile point as regards workmanship would not be out of place in Phase H, though no similar examples were found in Phase H context. For that matter no similar whole examples were found in Phase G context, but collectively the projectile points of Phase G are definitely similar in certain details: the way in which the tang meets the body without any definite break (as in Fig. 246: 2–3) and the type and amount of retouch. In one Phase G example (Fig. 246:4) the tang possibly ended in the same way with a slight concavity.[8] The specimen under discussion fits into our fragmentary picture of Phase G projectile points but may have been manufactured in Phase H times (or even I or J, though this possibility seems more unlikely).

[6] It is true that the few Phase H flints found on Ta'yinat are sickle blades (see p. 380), but the evidence from Judaidah shows that a variety of tool types (see Table V) are part of the Phase H industry there. Phase I was represented in small areas on Judaidah and Chatal Hüyük also, but almost no flints were found in these areas. This fact would suggest a general decline in flint-working in Phase I. On purely negative grounds the Judaidah evidence also seems to suggest that the general barrenness of Phase I as indicated by Ta'yinat may present the true picture.

[7] See René Neuville, "Le préhistorique de Palestine," *Revue biblique* XLIII (1934) 252–53 and Fig. 2.

[8] See Fig. 374:8–9 and pp. 476 and 478 for Dhahab examples which are most likely of Phase G.

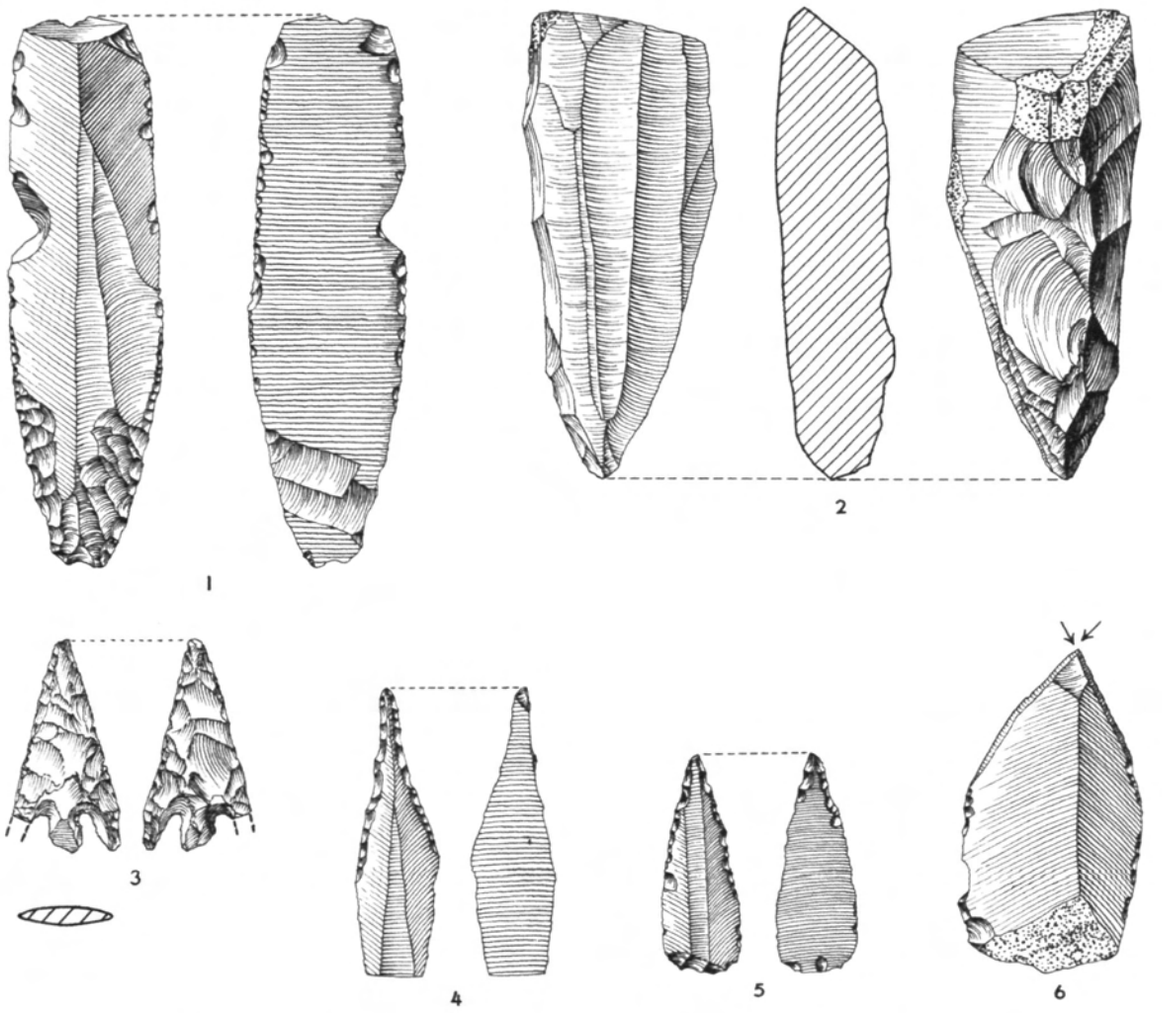


FIG. 372.—SECOND MIXED RANGE. FLINT (*1–3, 6*) AND OBSIDIAN (*5*) TOOLS. ACTUAL SIZE

SICKLE BLADES

Twenty-six examples are made on fairly broad Cananean blade sections; one of these, the largest (Fig. 373:5), is actually from post-Phase J context. The other two sickle blades are on narrower non-Cananean sections. There is nothing to suggest that any of the specimens do not fall within the range of Phases H–J.

Almost half the sickle blades have sheen along both edges. A few examples are coarsely denticulated by use. A small number are denticulated by nibbling retouch, irregular for the most part (see left edge of Fig. 373:4) but neat and regular in two examples. More than half, however, are denticulated by flat spreading retouch (usually on the bulbar face) which tends to be rough and irregular (both edges of Fig. 373:5, right edge of Fig. 373:1, left edge of Fig. 373:2, both edges of Fig. 373:3). The resulting denticulation is coarse, irregular, and sometimes quite jagged (see right edge of Fig. 373:1 and left edge of Fig. 373:3).

In the description of the Phase I sickle blades it was noted (p. 422) that some examples have much rough flaking at the back, which reduces the width of the blade section considerably. Eight of the Second Mixed Range sickle blades have the same feature. In most of these examples it is not so much a matter of steep retouch (as in Fig. 373:2) as a chipping-off of great facets (see Fig. 373:4). In addition, most of them have some rough steep retouch at one end.

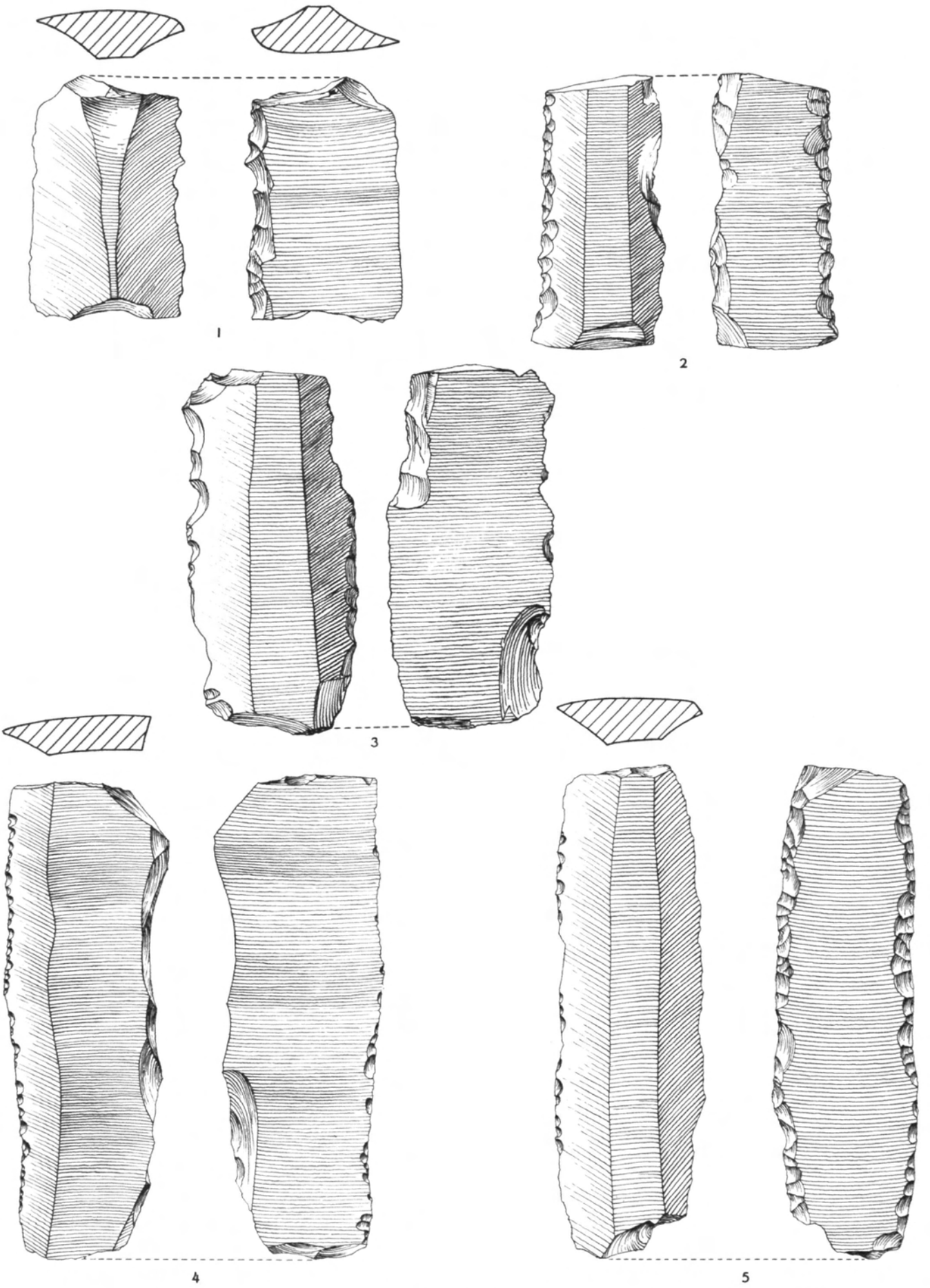


FIG. 373.—FLINT SICKLE BLADES: SECOND MIXED RANGE (*1-4*), EXTRUSIVE IN POST-PHASE J CONTEXT (*5*). ACTUAL SIZE

BLADES AND BLADE SECTIONS

There are two small rather thick blades. The larger (61 × 12 × 11 mm.) has a large plain striking platform, the smaller a small plain battered striking platform. Of the nineteen blade sections, only about six seem to be portions of Cananean blades. The remainder are from smaller more slender blades. The few bulbar tips show a small plain striking platform. The blades and sections all show signs of use. About half have some nibbling retouch along parts of one or even both of the edges.

The Cananean blade sections would not be out of place in Phase H, I, or J. To judge by the absence of small blade sections in Phases I and J, it seems likely that the small sections from the Second Mixed Range should be regarded mainly as of Phase H. Some may perhaps be survivals from earlier phases.

BORERS

One borer (Fig. 372:4) is neatly made with an extremely fine working end. The second example has a much blunter point, shaped by flat retouch on the bulbar face. If these are not survivals from earlier times, they were probably made during Phase H rather than I or J; the illustrated example, however, seems overly neat for Phase H.

GRAVER

This is a *bec-de-flûte* graver made on a flake (Fig. 372:6). It too was probably made during Phase H rather than I or J if it is not a survival from earlier times.

FLAKES

Both flakes are rough by-products from the preparation of a nodule to make Cananean blades. One has bits of rough steep retouch along the edges and has obviously been used in some capacity.

CORE

This is an unusually fine example of a small single-ended blade core (Fig. 372:2). In most cases such cores are chipped and battered as a result of use after the removal of the blades. This is the type of core from which small slender blades with tiny plain striking platform are obtained. Such cores and blades are most common in Phases A–B, and this core seems overly neat for Phase H. The longitudinal section shows the angle of the striking platform. The rear view indicates how a nodule would be shaped into a blade core. A blade removed from this portion of the core would bear the marks of all the shaping facets. Such a blade is called a *lame de dégagement.*

Obsidian Artifacts of the Second Mixed Range

Several of the nine specimens have quite a bit of retouch. A body fragment of a javelin head of Phases A–B type has excellent fluting retouch over the entire upper face and a small amount on the bulbar face at the tang end. A borer (Fig. 372:5) with fairly neat retouch at the pointed end and so retouched at the other end as to be useful for scraping is the more carefully made of two examples. The other borer has a slightly coarser point, made with desultory nibbling retouch. A fragment of what may originally have been a round flake scraper has good flat retouch over the upper surface and neat steep retouch around the intact edge. The other artifacts consist of a nibbled blade and four small slender blade sections that show signs of use.

No obsidian artifacts were found in Phases I and J; moreover such artifacts would look distinctly out of place with the flints found in those phases. The javelin head fragment is undoubtedly a survival from Phase A or B, perhaps found and reused in Phase H times. The neat borer (Fig. 372:5) and the scraper fragment seem suspect in Phase H; more likely they too are survivals from considerably earlier phases when obsidian was commonly used for a variety of tools. The blade and the blade sections may well belong to Phase H.

Flint and Obsidian Artifacts from Dhahab

The artifacts of this large group are instructive despite their unfortunately mixed contexts (see p. 15). The greater share can be placed typologically in the Phases A–B flint industry. Most of the remainder fall typologically within the general range of Phases F–H, for which sickle blades and blade sections made from Cananean blades are the main criteria of the flint industry. As in the case of the pottery, flints characterizing Phases C–E are entirely absent from Dhahab. Since most of the Dhahab material is duplicated by well stratified finds, only a few examples are illustrated and described, mainly projectile points with new features.

A highly patinated lunate with blunted back (Pl. 65:12) is the only example that we know of its kind in the ʿAmuq. It is large (40 × 10 × 5 mm.) for the general run of microliths and may in fact be an accidental product. But the possibility remains that it is a survival from earlier times and, along with the flint arrowhead from the Second Mixed Range (see p. 472 and Fig. 372:3), should be considered tentatively as an indication of the possible presence of a Natufian-like terminal food-gathering stage in the ʿAmuq.

Many projectile points were found at Dhahab. Quite a few are long javelin heads of the type familiar from Phases A–B. The tang of one (Fig. 374:1) is missing. In two others (Fig. 374:10–11) the tang is complete, but the tip is missing. No. 11 is one of several examples in obsidian. We are on less sure ground with some of the other projectile points which typologically we would place in the Phases A–B industry.

For one shape (Fig. 374:3) we have found no complete or partially complete examples in the A–B industry, which, however, did yield what may well be a body fragment of this type (see p. 316). On the other hand, a fairly close parallel for the shape was found in Phase G context (cf. Fig. 246:8). Despite the Phase G parallel, we feel that the Dhahab specimen belongs to the Phases A–B industry because of the excellence of the retouch (smooth flat retouch over main upper face, with additional neat nibbling retouch on left edge of body and smooth steep retouch on right edge) and the fact that it is made with respect to a central axis line on the upper face.[9]

Three projectile points (Fig. 374:4–6) by reason of their size should probably be considered arrowheads. We also regard these as of Phase A manufacture, again on the basis of excellence of retouch and the way in which the upper-face retouch follows the midrib or, in the case of No. 5, the two ridges. In all three the body edges are denticulated by the retouch.

Four projectile points (Fig. 374:2, 7–9) have nothing in common with those of Phases A–B, and we believe that they were made later. As yet, unfortunately, we do not have enough evidence to indicate in which later phase or phases they were made. Phase G is the most likely, for projectile points seem to be fairly common in G and there are details of similarity. However, we do not rule out the possibility that at least some of them were made during Phase F or Phase H.[10] The fact that Phase G pottery is not certainly present at Dhahab would have some bearing on the question.

[9] Most of the Phases A–B projectile points are made on blades which are triangular in transverse section. In these cases the midrib forms the axis line, and the retouch usually reaches the midrib (as in Fig. 374:10–11). In the upper portion of the projectile point shown on Fig. 374:1 the breadth is so great that the midrib itself was accentuated and then the edges were retouched. The Phases A–B industry yielded no examples in which the midrib is ignored, with the retouch extending beyond it. In the few projectile points made on trapezoidally sectioned blades, either the retouch on the upper face is worked with respect to both demarcation lines, usually partially obliterating them and leaving an unworked flat plane in the center (as in lower portion of Fig. 30:3), or these two ridges are disregarded and a midrib is made by retouch (as in lower portion of Fig. 30:2). The latter is the case with our Dhahab example (Fig. 374:3). It was trapezoidal in transverse section before it was retouched. In the projectile points of Phase G, the midrib is disregarded and generally completely obliterated by retouch. In any case, on the basis of the pottery, Phase G may not be represented at Dhahab (see p. 15, n. 13).

[10] Cf. Fig. 372:1 (p. 472), a Second Mixed Range example which may well be of Phase H manufacture but which definitely falls into the general pattern of the Dhahab specimens.

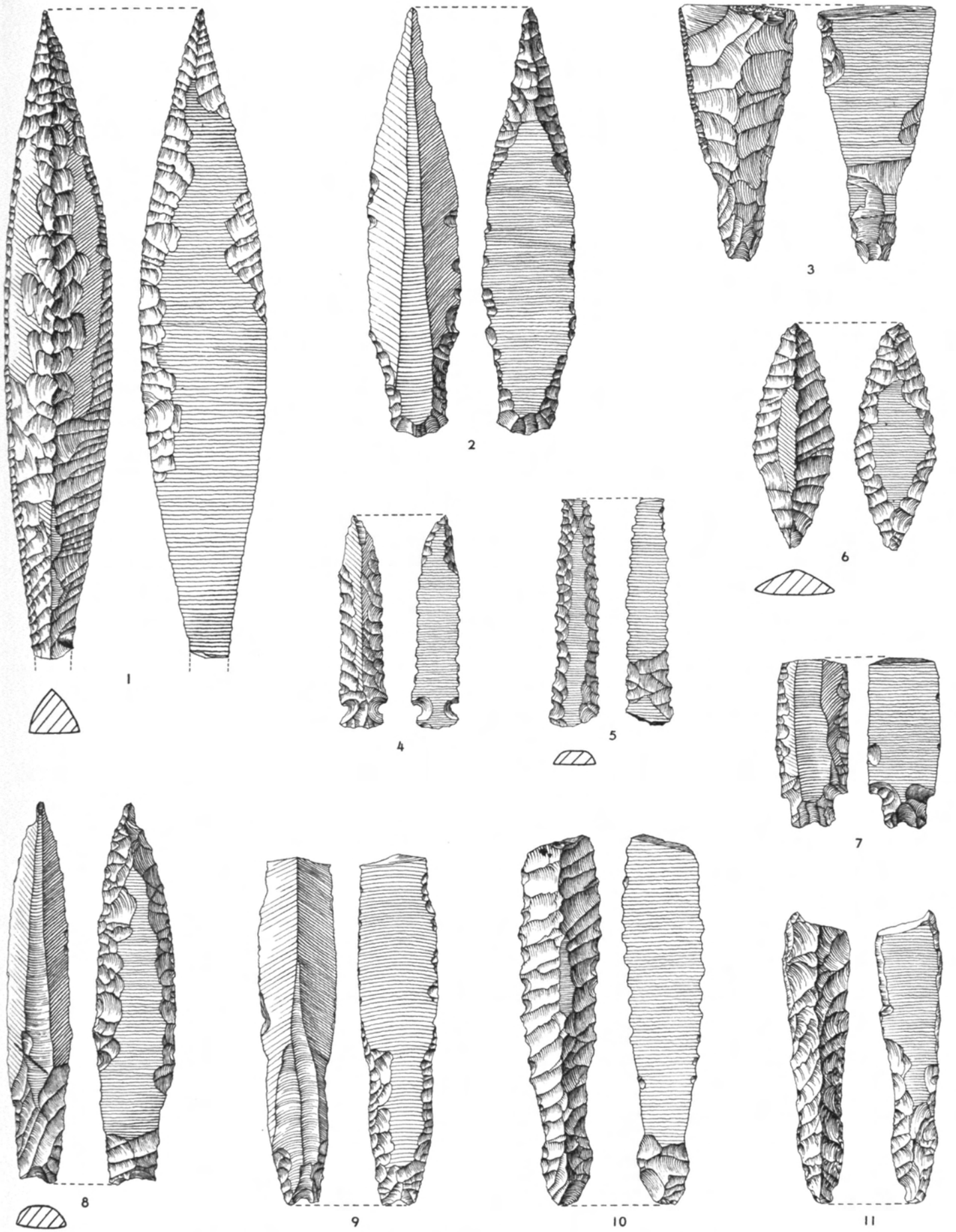


FIG. 374.—FLINT (*1–10*) AND OBSIDIAN (*11*) TOOLS FROM DHAHAB. ACTUAL SIZE

One of these Dhahab specimens (Fig. 374:8) is similar to the Phase G type (Fig. 246:2–3) in which the broad tang runs into the body with practically no break and the upper surface of the tang is covered with flat retouch which obliterates the midrib (or two ridges in a trapezoidally sectioned point). We have found no complete tangs for this type in Phase G, but one (Fig. 246:4) possibly ended in a slight concavity (as in Fig. 374:8). A few other tang fragments from Dhahab are similar in shape and retouch to No. 8 but have a rounded end (Pl. 65:14).

On the basis of general shape, undifferentiated concave-ended tang, and meagerness of retouch (as in Fig. 246:4) we would place No. 9 in the same general period as No. 8. A new feature is a slight notching (about midway up the fragment) at a point which is probably the upper end of the tang. Another example from Dhahab has such notching and additional notching near the lower end of the tang which gives the illusion of slight wings (Pl. 65:15). The wings are not so marked as those of Figure 374:7 but do suggest that No. 7 should be grouped with No. 9. No. 2 does not have a concave-ended tang but, considering its general shape and amount of retouch, should probably be put with this group.

A lone sharp-winged projectile point (Pl. 65:16) is somewhat similar to the small arrowheads found in Phase H (see p. 380 and Fig. 294:2–3). It has a minimum of retouch. The tang is shaped by bulbar-face retouch along one edge and upper-face retouch along the other. This retouch is steep and rather rough. On the bulbar face there is a bit of nibbling retouch at the very tip to sharpen it. This example may well have been made during Phase H.

GROUND STONE OBJECTS

Vessels

Of the six container fragments described here, two were found unstratified at Judaidah and four are from Dhahab.

A saucer-like vessel with rounded lip (Fig. 375:1) is neither well shaped nor well finished. The outer surface is fairly smooth but shows innumerable tool marks, and the inner surface is grooved with tool marks. A small cuplike container (Fig. 375:2) with flattened outsplayed

Fig. 375.—Fragmentary Stone Vessels: Dhahab (*2–4, 6*), Unstratified (*1, 5*). Scale, 1:3

rim and marked carination (cf. Fig. 187:5, of Phase F) probably had a rounded base. The fragment shows that the container was carefully shaped. The outer surface is ground and polished; the inner surface is slightly rough with residual tool marks. The rim of a thick-walled bowl is also flattened and outsplayed (Fig. 375:3). It is well shaped. The surfaces are smooth and slightly polished, but they are lightly scored with tool marks. A hole-mouth form has a flattened rim (Fig. 375:4).[11] The surfaces are smoothly ground and polished. Neat deeply incised chevrons(?) decorate the outside. The fragment shows painstaking workmanship, and the container must have been a handsome specimen. A body fragment of a bowl (Fig. 375:5) shows decoration of alternating wide and exceedingly narrow flutes. The fragment itself gives no clue as to the orientation of the decoration, but the horizontal placement seems most logical. The surface, though showing fine tool marks, is carefully ground and slightly polished.

[11] Cf. Fig. 62:4, of Phase B, for a hole-mouth shape with less inward-pitching side.

Finally, there is a fragment (Fig. 375:6) of a possibly bottle-like container. The hole would have served to hold an inserted spout. Both surfaces are smoothly ground, and the outer surface shows a slight polish.

Too little is known as yet of the stone-vessel industries of the various phases to permit us to assign any of these fragments to any specific phase. The two unstratified specimens (Nos. 1 and 5) come from areas which were predominantly of Phase G, and both fragments would fit into the Phase G industry as now known. Of the Dhahab specimens, it seems likely that No. 2 is not earlier than Phase F. It is impossible to say whether Nos. 3, 4, and 6 should be assigned to Phase A or later.

Celts

The four celts illustrated here were found unstratified at Judaidah. Two others are from the Second Mixed Range at Judaidah.

A medium-sized celt (Fig. 376:4) is a pebble that was easily converted into an adzlike tool. The surfaces are smooth and polished but slightly bumpy. The only certainly human workmanship is the abrupt rounding-off of the lower end on one face, to form the working edge. This end is greatly battered and chipped from use, and the original working edge is completely obliterated. A fairly large chisel of adzlike profile (Fig. 376:1) has well defined beveling parallel to the working edge on one face, and the other face slopes almost imperceptibly to the working edge. What remains of the working edge is worn but sharp.

Two smaller tools have axlike profiles. One (Fig. 376:2) is smoothly ground and polished but carelessly shaped. Poorly defined beveling of more or less rounded outline is evident on each face near the working edge, which is sharp and only slightly nicked by use. The other example (Fig. 376:3) is one of the handsomest cells found. The two faces slope equally to the working edge. The object does not seem to have been used as a tool, for its rounded working edge is not marred.

The two celts from the Second Mixed Range (x1452 and x2342) are small tools which from their description would seem to have sharply defined beveling on one face and thus to be adzlike. They might belong to any of the three phases (H–J) represented in the Second Mixed Range. Although no celts were found in Phase J, it is most probable that they were still being made and used at that time.

None of the unstratified celts can be assigned typologically to any particular phase. However, three (Fig. 376:1–3) come from areas which at the time of their finding were yielding Phase G materials, and the fourth (Fig. 376:4) is from a cave-in that yielded materials mainly of Phases F–H.

Pounder

This is a singularly shaped tool (Fig. 376:5), with the two faces beveled or shaped in much the same fashion. The faces and one side are smoothly ground and polished. The two ends and the other side are rounded and show evidence of continuous pounding or battering. This object is from the cave-in that contained materials mainly of Phases F–H.

Perforated Hammers

An incomplete object (Fig. 377:1, Pl. 68:9) was certainly used as a hammer, for its preserved end is battered from use. The other surfaces are smoothly ground and polished. The large double-bored perforation is smooth and polished. The missing end, on the basis of comparable material from Anatolia, may well have been used as an ax blade, with the edge parallel to the bore. This object actually seems to have a slightly down-curved butt, as can be seen in the photograph; the drawing shows the bottom of the object because this face is intact. It comes from an area that at the time of its finding was yielding Phase G materials. It would

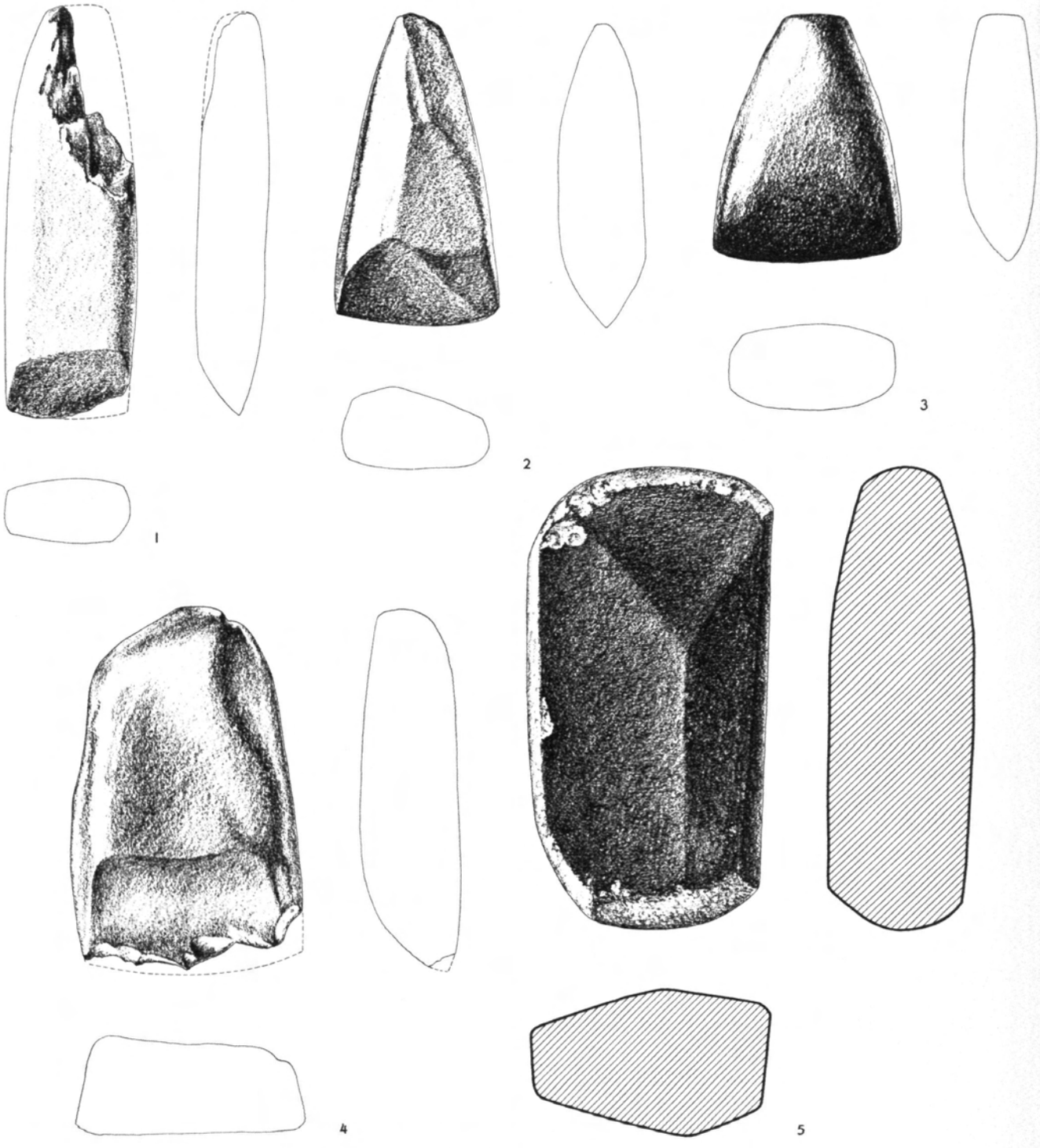


FIG. 376.—UNSTRATIFIED CELTS AND A STONE POUNDER (*5*). ACTUAL SIZE

be extremely interesting to know whether it was made during Phase G or whether, as seems more likely, it belongs to Phase H with its characteristic Red-Black Burnished Ware of Anatolian aspect (see pp. 518 f.). The hammer-ax is at home in Anatolia.

The other hammer (Fig. 377:2, Pl. 68:10) is complete. One end is squared for hammering, and the other is pointed but blunt. It is not known whether either of the ends shows battering

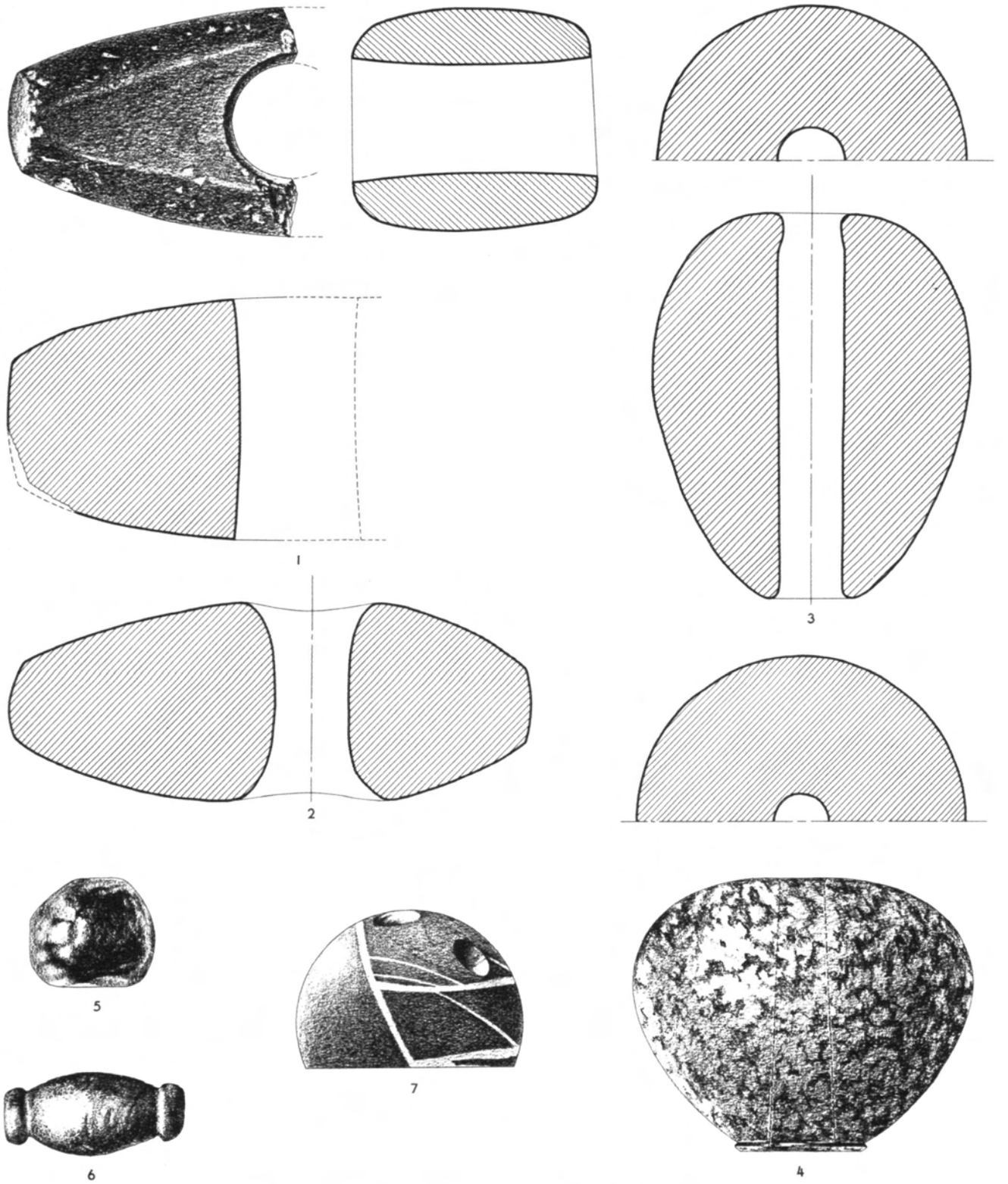


FIG. 377.—GROUND STONE OBJECTS: SECOND MIXED RANGE (*5–6*), DHAHAB (*7*), UNSTRATIFIED (*1–4*). ACTUAL SIZE

marks. This object comes from the surface of a shallow trench (TT 6) whose few sherds represent Phase I. It is not so distinctive as the other hammer, but it too has parallels in Anatolia.

It is unfortunate that neither of these objects was stratified, for no others of the kind were found in the excavations.

Whorl

This small whorl from the Second Mixed Range (Pl. 69:8) has a rounded biconical shape. A biconical stone whorl was found in Phase F context (Fig. 189:4). Roughly similar shapes in clay appear as early as Phase B (Fig. 58:8) and as late as Phase G (Fig. 235:6).

Maceheads

Both examples were found unstratified at Judaidah. One (Fig. 377:3, Pl. 68:3) has the pearoid shape typical of Phase G and of the few examples from H (see pp. 324 and 383). The other (Fig. 377:4, Pl. 68:7) is of compressed pearoid shape and differs from other ʿAmuq examples in material (diorite) and in having a slight collar at the lower end. Both maceheads are carefully shaped and have smoothly polished surfaces. No. 3 was most likely made during Phase G or possibly H, and No. 4 was probably made in one or the other of these two phases. It is not known whether maceheads continued to be used in Phases I and J.

Weight

This spheroidal object of hematite (Fig. 377:5) has a flattened base which keeps it from rolling. It weighs 19.1 gm. This is the only object from the early phases which can with fair certainty be considered a weight. It was found in the Second Mixed Range at Taʿyinat and thus belongs to Phase H, I, or J.

Unclassified Objects

An object with round transverse section and flattened ends (Fig. 377:6) is fairly smoothly ground and shows a little polish. A groove at each end may be purely decorative or may possibly indicate that the object served as a toggle. It comes from the Second Mixed Range at Judaidah.

A curious flat-based object from Dhahab is made of light brown limestone with white calcite veins (indicated by streaks in Fig. 377:7). The entire rounded surface is exceedingly well smoothed. The base is slightly ground but still rough in spots. The object is loop-bored (off-center). It is not known what purpose it served or whether it was originally a sphere. Its weight (*ca.* 60 gm.) would seem to indicate that it was not used in a purely decorative fashion, as a pendant for example. Loop-boring is found on some of the Phase G cylinder seals (see p. 331, also p. 488, n. 15) but may have been used earlier.

An object of chalk from the Second Mixed Range (Fig. 378:1, Pl. 68:13) has smoothly ground surfaces. Apart from a small chipped area at one end of the perforation, it shows no signs of hard usage. Its size and shape suggest that it would be useful as a double-ended hammer for light materials. However, the perforation is not suitable for hafting and probably indicates that the object was suspended, perhaps to weight something down.

Beads

The eight beads described here come from the Second Mixed Range except for one from the cave-in which yielded materials mainly of Phases F–H.

Two small beads are disklike with straight side and flattened ends (Fig. 378:2). The unillustrated example (x2048) measures 6 mm. in diameter and 2 mm. in length. One bead (Fig. 378:3) is roughly made and asymmetrical but approaches an oblate spheroid. A biconical bead (Pl. 70:2) is well made. A long barrel (Fig. 378:4) has a suggestion of angularity at the center. Another long bead (Fig. 378:7), with grooved sides, is quite unusual in shape. The ends are

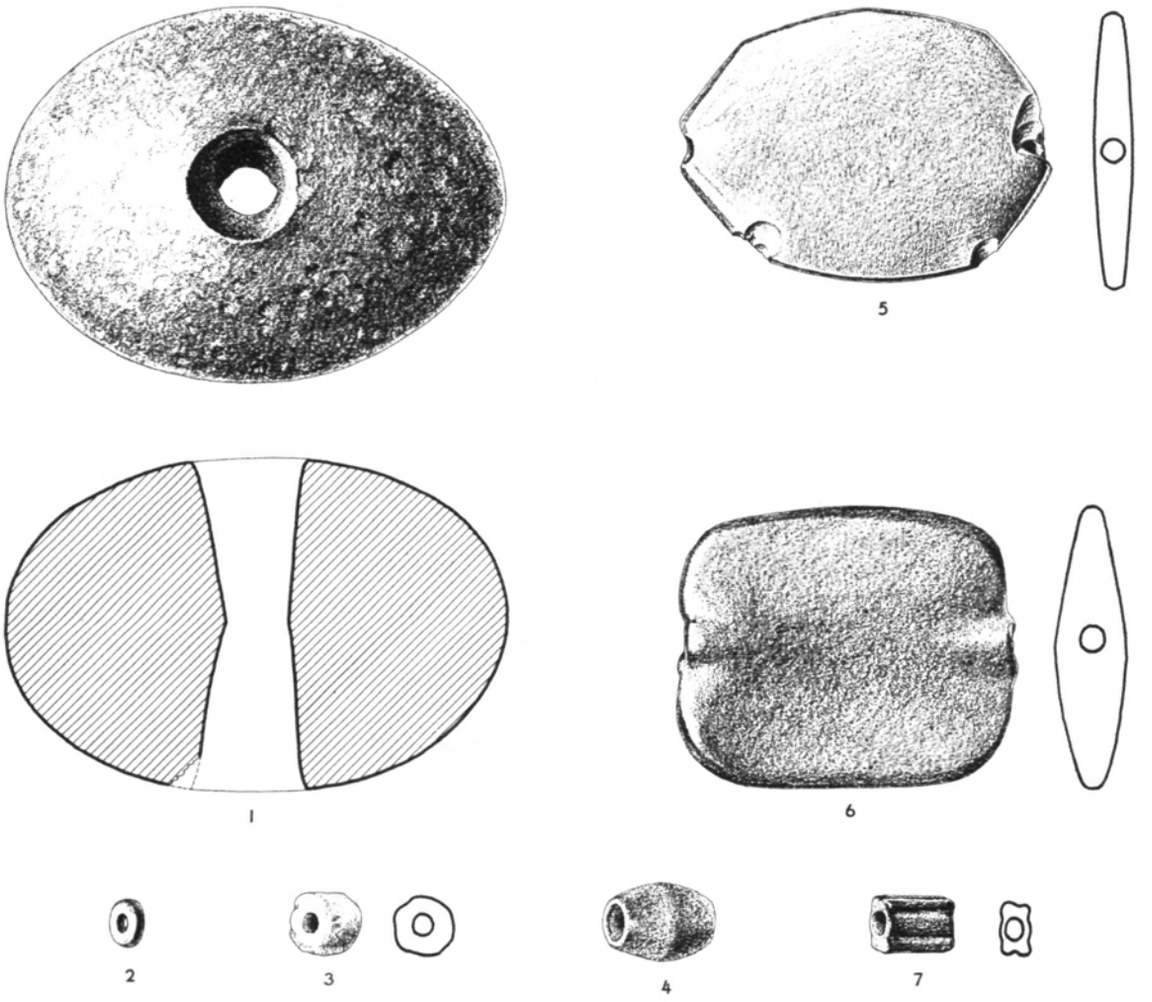


FIG. 378.—GROUND STONE OBJECTS: SECOND MIXED RANGE (*1–5, 7*), PHASES F-H CAVE-IN (*6*). ACTUAL SIZE

ground flat. Two flat beads are very large and well made (Fig. 378:5–6). The edge of No. 5 is thin and flattened at the center of the bead but slightly thicker and rounded near the ends of the perforation. The surfaces are highly polished. On the basis of shape and size we should be inclined to assign this bead to Phase H (cf. Fig. 296:14, 16) but must immediately add that we know very little about bead types for Phases I and J. The rectangular plan of No. 6, from the F–H cave-in, is unusual. The bead, though large, is of fairly light weight. The surface is fairly smoothly ground, though some faintly pitted areas and tool marks still show, and is slightly polished. No large beads were found in Phase F context, but very large examples (though of different shapes) are present in Phases G and H.

STAMP SEALS

Of the twenty-one stamp seals treated here, only two (Fig. 379:1–2) are from the Second Mixed Range. Two (Figs. 379:5, 380:8) are from Dhahab; one (Fig. 379:6) is from the F–H cave-in, and one (Fig. 379:9) was found unstratified in an area yielding early materials. Four stamp seals (Figs. 379:3, 4, 8 and 380:1) were purchased but come from the ʿAmuq.[12] The

[12] Two (Fig. 379:3–4) are said to come from Tell Hasanuşagı, on the east side of the Lake of Antioch, which contains early as well as later materials (*Survey*, No. 99). Another (Fig. 379:8) was brought in by our workmen from a near-by village, and the fourth (Fig. 380:1) is said to come from near Chatal Hüyük.

remaining seals come from areas which yielded post-Phase J materials and should be considered as either extrusive or survivals, for they were no doubt manufactured within the time range treated in this volume.

The two stamp seals from the Second Mixed Range are small hemispheroids (Fig. 379:1–2). The design of No. 1 consists of nine small drilled depressions. A similar seal of Phase H (Fig. 297:1) has the same number of larger drilled depressions arranged, perhaps accidentally, in the same fashion. The use of drilled depressions on stamp seals begins earlier than Phase H in the ʿAmuq, though just how early is not known. Two seals from the First Mixed Range (Fig. 101:5–6) are decorated with drilled depressions and perhaps belong to Phase F or even E (see p. 130). However, the earliest seals from clear contexts which are decorated with drilled depressions are Phase G cylinders, though one stamp seal from Phase E (Fig. 167:3) does have holes drilled through the base as part of its design. The incised linear design of No. 2 probably represents a careless attempt at the type with filled quadrants (cf. Fig. 101:3). This type of design seems to begin in Phase E and continue at least through Phase G and possibly H (see p. 387). No stamp seals were found in Phases I and J, although no doubt they were manufactured at that time.

Five large stamp seals (Fig. 379:3–7) with perforated ridge handle have in the main more or less rounded trapezoidal base. No. 5 is broken at the perforation; its base was asymmetrical and probably more or less trapezoidal. No. 6 has a symmetrical base (rounded rectangular) but belongs in this group by reason of its size, ridge handle, and design. Unfortunately, no impression was made of this seal, which is now in Antioch. The design in all five cases consists of parallel straight lines crossed by other parallel straight lines. These five seals are similar to seals of Phase A in shape and decoration (cf. Fig. 37:1, 3, 5) and were probably manufactured during Phase A, though Phase B is a possibility (see p. 129). No. 5, however, is from Dhahab, which yielded no Phase B pottery. No. 6 is from the F–H cave-in but was almost certainly manufactured during Phase A.

A small button-like seal with narrow perforated ridge handle (Fig. 379:8) has a geometric design similar to, but not quite so complex as, that of a Phase B seal (cf. Fig. 68:1). In size and shape, however, it is closer to a seal of Phase E (cf. Fig. 167:5); a Phase F seal with trapezoidal base (Fig. 191:3) also is somewhat comparable in that it is small and button-like and has a perforated ridge.

Six seals of various shapes all have designs composed of quadrants with simple fill—short parallel lines (Fig. 379:9–11) or chevrons (Fig. 380:1–3). Chevron fill is found on seals from Phases F and G. Simple short-line fill cannot be assigned to any specific phase or phases. A seal of the First Mixed Range (Fig. 101:3) has this type of fill, and the most probable period for its manufacture is Phase F. One seal of this group (Fig. 380:1) is an anomaly. Its round plan is atypical for gables,[13] and the look of newness of the incisions makes one wonder whether the design was worked or reworked in recent times. The surfaces are smoothly ground and polished, but some tool marks remain.

A small hemispheroid with four drilled depressions on its base (Fig. 380:4) has parallels in the First Mixed Range (cf. Fig. 101:6, perhaps of Phase E or F manufacture) and in Phase H (cf. Fig. 297:1).

The designs on two hemispheroids (Fig. 380:5–6) combined linear motifs with more or less oval-shaped gouges. A seal from Phase G or H (see Fig. 297:3 and p. 388) has the same combination and is similar in composition to No. 6. The back of No. 6 is grooved. Whether the groove represents reworking of an original perforation which broke during manufacture or whether it was made as such for some specific purpose (mounting?) is not known.

[13] Hogarth (*Hittite Seals*, p. 19) calls this shape, which is fairly rare in his collection, a carinated hemispheroid.

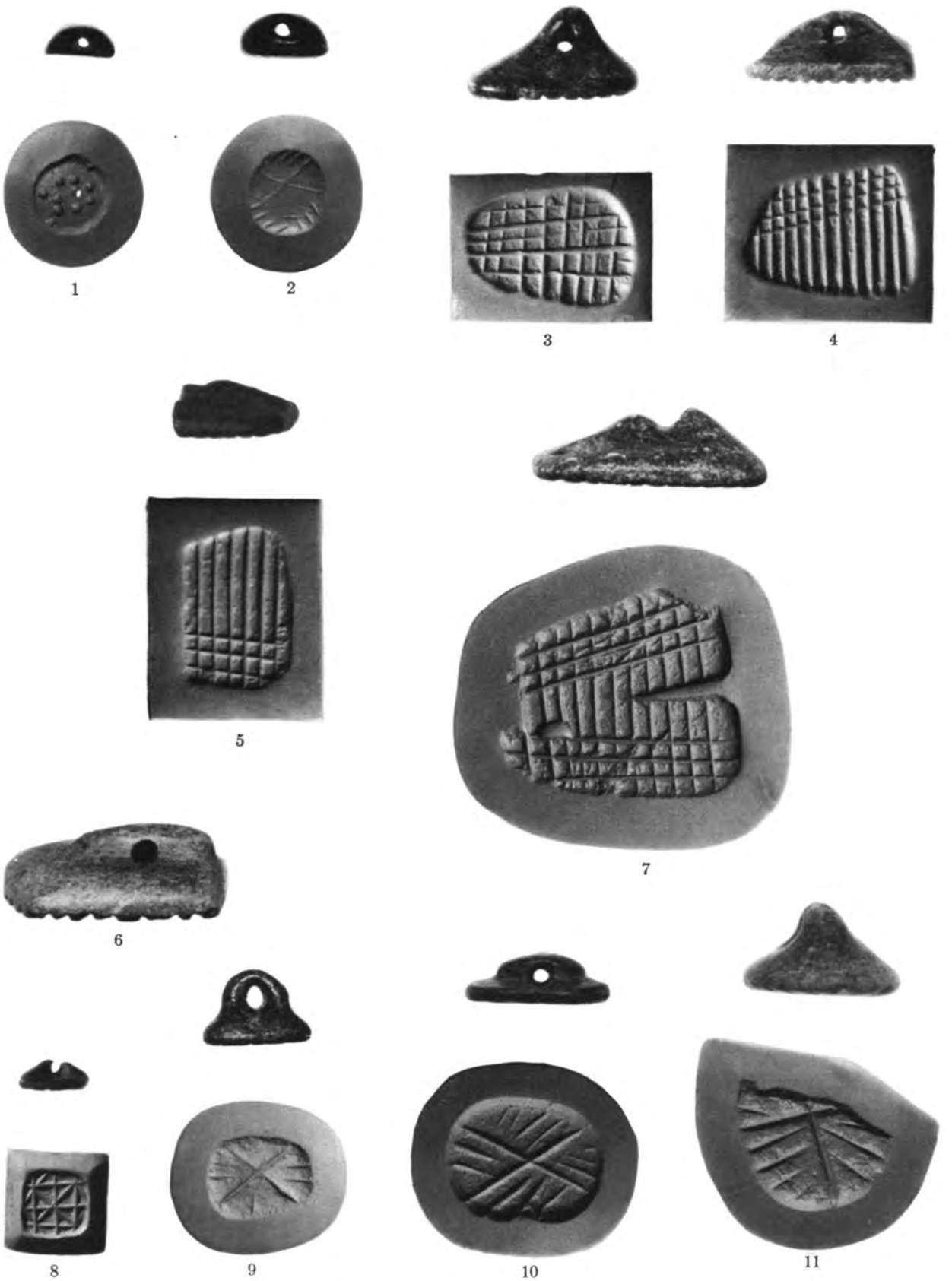


Fig. 379.—Stone Stamp Seals: Second Mixed Range (*1–2*), Dhahab (*5*), Extrusive in Post-Phase J Contexts (*7, 10, 11*), Unstratified (*6, 9*), Purchased (*3, 4, 8*). Actual Size.

FIG. 380.—STONE STAMP SEALS: DHAHAB (*8*), EXTRUSIVE IN POST-PHASE J CONTEXTS (*2–7, 9–10*), PURCHASED (*1*). ACTUAL SIZE.

A few seals have more intricate designs, some naturalistic. That on a large gable seal (Fig. 380:7) consists of an elaborate rosette whose center is composed of a drilled depression within a circle. Punctations fill the petals. The seal was probably made in Phase G, for drill-centered circles are found on Phase G cylinder seals (see p. 331) and the only other rosette design is on a cylinder seal of that phase (Fig. 254:5). Gable seals first appear in the ʿAmuq in Phase F and are used in Phase G. None were found in Phase H, and no stamp seals at all appeared in Phases I–J. Since there are only a very few seals from Phase H, we cannot say definitely that gable seals are limited to Phases F and G.

A smaller gable seal (Fig. 380:8), in worn condition, has an unusual naturalistic design composed in four quarters with a chevron-like motif separating the elements (cf. Fig. 380:1–3). These in each instance comprise a stem with sprigs extending from one side only. The seal comes from Dhahab, which yielded pottery of Phases A, F, and H (or G plus H). The shape and design are foreign to Phase A. In Phase F, however, the gable seal and naturalistic design seem first to appear. Both traits continue in Phase G, but whether either or both of them might be contained in a full Phase H assemblage is not known at present.

Another gable seal (Fig. 380:9) has a curious design composed of four joined chevron-like elements in phase. It seems to represent more than geometric decoration or "doodling," but it is impossible to say exactly what was intended. When regarded horizontally (as shown) the design suggests four impaled rearing animals. Vertically, it might suggest a complicated plant motif. The design on a seal from Phase F (Fig. 191:6) is somewhat similar, for it makes use of more or less joined chevron-like elements in phase. No. 9 on Figure 380 should probably be assigned, along with the other gable seals, to Phase F, G, or possibly H.

A well cut gable seal (Fig. 380:10) shows a horned animal in standing position. The whole treatment is quite linear, but some attempt is made to represent the hoofs by the rounded ends of the legs. A quatrefoil fills the space below the head, and above the back is a more complicated but similar motif. A Phase H seal (Fig. 297:4) has a somewhat similar fill motif with three points. No. 10 on Figure 380 should probably be assigned, along with the other gable seals, to Phase F, G, or possibly H. Though there are a few seals in the early phases with which this seal might be compared, the reason (aside from its shape and simple style) for placing it in an early phase is more negative than positive. It belongs not with any of the great number of excavated post-Phase J seals but rather with the simpler early seals such as those shown on Figures 191:7 (Phase F), 253:8 (Phase G), and 297:4 (Phase H).

Cylinder Seals

Of the thirteen seals described here, four (Figs. 381:1, 2, 5 and 382:2) are from the Second Mixed Range. Three (Figs. 381:3–4, 382:4) were purchased but are reportedly from North Syrian sites.[14] The remaining six were found in post-Phase J contexts but are regarded as extrusive, for, though they may have been reused in later times, they must have been made during Phases G and H (a few perhaps during Phase I or J). It will be recalled that cylinder seals do not appear until Phase G in the ʿAmuq and that no seals were found in Phase J.

One seal (Fig. 381:7) is unbored. Two seals (Fig. 381:3–4) have suspension loops, and one example (Fig. 382:3) has a perforated conical top. Only two other seals with perforated extensions were found, one with a loop in Phase G (Fig. 254:1) and one with a conical top in H (Fig. 297:5). The latter, however, may be a survival from Phase G (see p. 388). Four seals

[14] Two are undoubtedly from the countryside surrounding the ʿAmuq or from the ʿAmuq itself. One of these (Fig. 381:4) is said to come from Jabal Bariska, near Baş Michli, and the other (Fig. 382:4) from Tulail al-Sharqi. The latter, however, probably originated in another mound in the vicinity, since trial excavations by the Syrian Expedition revealed only late materials (Phases O and possibly M) at Tulail al-Sharqi. The third purchased cylinder seal (Fig. 381:3), said to come from Tell Eshref al-Mai on the Quwaik Su, is apparently from the Aleppo Plain.

(Figs. 381:5 and 382:1, 2, 4) are loop-bored,[15] and the remainder (Figs. 381:1, 2, 6 and 382: 5–6) are perforated axially.

Two of the seals from the Second Mixed Range (Fig. 381:1–2) have no features which suggest the phase of manufacture. Both are small slender cylinders and much worn. The animals on No. 1 are depicted in lively fashion. A rearing animal at the lower left in the impression appears to be biting a hind leg of an animal in the center above. The latter's head, with long donkey-like ears, is turned back as if to look at the disturbance. In the center below is an animal with long tail. The motif directly above the neck of the latter is too worn to be identified; it may be an animal head used as fill. At the upper right a long-eared animal with lowered head and outstretched tail faces in the opposite direction from all the other animals. This design, with its arrangement of animals placed over the entire field and not end to end within a register, would seem to be entirely of local invention without any foreign influence. The design of No. 2 seems to consist of two standing persons in short skirts (one with a girdle), each with one arm upraised. The figures are separated by a fairly broad tree on one side and by a tall slender tree on the other side. Although the details are worn away, still in its essentials this design is vaguely reminiscent of Mesopotamian seals of Akkadian style which depict gods.

Three seals (Fig. 381:3–5) have geometric designs which combine drill-centered circles with straight lines. The design of No. 3 is identical with that of a Phase G cylinder (Fig. 254:3). One of the circles on No. 3 was obliterated by a perforation made through it to the top of the seal after the suspension loop was broken. The base is decorated with incised crosshatching, and that of the similar Phase G cylinder has drill-centered circles (see p. 331). No. 4 has a more elaborate suspension device and tapers somewhat toward the base. Incised lines give the impression of four zigzags in phase. The seal is so worn that some of the drill-centered circles appear merely as dots in the impression. Some of the circles overlap one another, as also on the base, which is decorated with four drill-centered circles and one drilled depression. The latter was undoubtedly intended to have a surrounding circle until it was found that the space was already crowded. The design of No. 5, a worn loop-bored cylinder, consists almost entirely of drill-centered circles. Three parallel oblique lines divide the circles into groups. An incised line borders the design at the bottom. The base of this seal also is covered with drill-centered circles. These three cylinders, with their concentration on the drill-centered circle motif, were almost certainly produced during Phase G, though we cannot eliminate Phase H as a possibility. This motif was apparently popular on Syrian seals. As far as we know at present, it seems to be confined to Phase G (Fig. 254:2–3) and possibly Phase H (see p. 388 and Fig. 297:5). The fact that No. 5 on Figure 381 is from the Second Mixed Range further suggests the possibility of Phase H. The conspicuous manner in which the motif is used on

[15] See p. 331, n. 40. Hogarth (*Hittite Seals*, p. 54) considers North Syria the home of this type of cylinder and thinks it was produced for only a short time. Frankfort (*Cylinder Seals*, pp. 6–7) confirms Hogarth, for he finds only one loop-bored cylinder in the Iraq Museum (and no excavated Mesopotamian examples) and, moreover, he finds that the Syrian examples which he knows bear only Jamdat Nasr style decoration with one exception (our Fig. 382:4, which is a peripheral Early Dynastic seal according to Frankfort). Two of our Phase G loop-bored cylinders (Fig. 254:2–3) certainly confirm this early dating on the basis of stratification and the use of the drill-centered circle. It is interesting that the design on one of these (Fig. 254:3) is identical to that on a seal with perforated extension (Fig. 381:3). A loop-bored seal shown by Hogarth (*op. cit.* No. 29) possibly is a product of the Early Dynastic period. It seems entirely probable that the use of loop-bored cylinders was of short duration, as suggested by Hogarth, for in our own excavations those with clear context are from Phase G. Of the known examples, only two (mentioned above) would seem to deviate from the Jamdat Nasr style. Few enough loop-bored cylinders seem to be known so far. There are six in the Ashmolean Collection (Hogarth, *op. cit.* Nos. 24–29), about six in the Poche Collection in Aleppo (*ibid.* p. 54 and Figs. 58, 60), and Hogarth also mentions one in the Bibliothèque Nationale (*ibid.* p. 54). Frankfort (*op. cit.* pp. 6–7) mentions that there are several in the National Museum at Aleppo and speaks of one example in the Iraq Museum. One example is in the Musée de Cannes (Joseph Billiet, *Cachets et cylindres-sceaux de style sumérien archaïque et de styles dérivés* [Paris, 1931] No. 10), one in the Newell Collection (*OIP* XXII, No. 650), and we have seven examples (Figs. 254:2–4, 381:5, and 382:1, 2, 4).

FIG. 381.—STONE CYLINDER SEALS: SECOND MIXED RANGE (*1*, *2*, *5*), EXTRUSIVE IN POST-PHASE J CONTEXTS (*6–7*), PURCHASED (*3–4*). ACTUAL SIZE.

these ʿAmuq cylinders seems peculiar to North Syria. See Plate 85:4 for a Phase G sherd bearing this motif.

A fourth cylinder with geometric design (Fig. 381:6) very possibly was made during Phase G. Two concentric circles with drilled center, chevrons, gouges, and a curious motif with short horizontal lines branching off a longer vertical line are found on this fragment, which must represent about one-fourth of the original seal (original measurements: l. *ca.* 60, d. possibly 25 mm.). All the broken edges are smoothed and show polish, an indication that the fragment itself was used in some capacity. It was found in very late context but does not seem at home in any of the later phases. Concentric circles are decidedly unusual. Two Phase G potsherds (Fig. 236) bear fragmentary impressions of a seal with a pair of large concentric circles (see p. 296). A fragmentary impression on a sherd from the Second Mixed Range (Fig. 369:4) also features concentric circles, no doubt with drilled center. Chevrons and punctate space-fillers are found on stamp seals (see Fig. 253:6, 9, 10) but not usually on cylinder seals. The vertical motif with horizontal branches has no parallels from the ʿAmuq excavations. The best reason for assigning this seal to an early phase is the loop-bored seal in the Newell Collection,[16] which has the same sort of decoration: chevrons, gouges, and the curious branch motif as well as a strange rosette with drill-centered circle. The loop-bore seems a convincing argument for assigning the Newell seal to Phase G, and thus also our fragment. Their designs may well be local variations of the Jamdat Nasr geometric style.

The rest of the seals have representational designs. The unbored squat cylinder (Fig. 381:7)[17] shows three people, one standing with upraised arm before a tree and two squatting or sitting one above the other and occupied in some fashion with a two-handled pot. All three heads are drilled (cf. Fig. 297:5, from Phase H), but only the two squatting figures are pigtailed. A "bull" is shown above a ladder motif and below an obscure motif. A "goat" also appears, below two "pieces of fringed cloth."[18] The motif before the "goat" may be a space-filler, as probably also the triangle behind him, or may represent food for the "goat." The design on a loop-bored squat cylinder (Fig. 382:1) has been interpreted as "a Syrian version of the shrine and its sacred herd."[19] By the position of the legs of the two larger quadrupeds, the artist definitely conveys the impression of motion. A worn fragment of a loop-bored cylinder (Fig. 382:2) shows two animals facing in the same direction and separated by a vertical motif which may originally have depicted a tree, representing food for the animals. At the extreme left in the impression may be an angular hind leg of a third animal. Various small space-fillers are too worn to be identified. A large elliptical filler over one of the animals may conceivably be an eye motif. Next to it is a drilled depression with a tail. The loop-boring, the simple animal file or herd, the possible eye motif (cf. Fig. 254:5), and the drilled depression with tail all point to Phase G or possibly Phase H as the period of manufacture. The design on the seal with conical top (Fig. 382:3) consists of two deeply incised animals (each shown with three legs) facing in the same direction and separated on one side by what seems to be a bird and on the other by a similar motif crossed by a line. Above each animal is a ladder motif. The conical top is encircled by three lightly incised parallel lines (cf. Fig. 297:5, from Phase H, with more deeply incised lines). These four seals on the basis of shape and design could have been manufactured during Phase G or possibly H. The fact that one of them (Fig. 382:2) comes from the Second Mixed Range further suggests the possibility of Phase H.

[16] *OIP* XXII, No. 650.

[17] Published in Frankfort, *Cylinder Seals*, pp. 37 and 229, Pl. XXXVIII*f*, as a peripheral seal of the Jamdat Nasr period.

[18] As described *ibid.*

[19] See *ibid.* p. 229 and Pl. XXXVIII*j*. This is likewise considered by Frankfort as a peripheral seal of the Jamdat Nasr period.

1

2 3

4

5 6

FIG. 382.—STONE CYLINDER SEALS: SECOND MIXED RANGE (*2*), EXTRUSIVE IN POST-PHASE J CONTEXTS (*1*, *3*, *5*, *6*), PURCHASED (*4*). ACTUAL SIZE.

Another loop-bored cylinder is boldly incised (Fig. 382:4).[20] A bulbous-headed man with upraised hands is flanked by hornless animals (one shown with three legs, the other with four). An animal with long curving horns is also shown. The motif filling the space in front of the latter may represent food. The horned animal is depicted in almost as lively fashion as the quadrupeds of Figure 382:1. This seal was probably manufactured in Phase G or possibly H.

A cylinder of lapis lazuli (Fig. 382:5) has weathered patches which somewhat obscure the details of its fine symmetrical design. Two crossed animals with long tails, presumably lions, attack two other rearing animals. The antlered animal at the right in the impression is apparently being seized by the throat, for his head is thrown far back. A scorpion terminates the group. In contrast to the other seals described, the figures on this seal give the impression of having been modeled.[21]

Finally, there is a cylinder (Fig. 382:6) showing a tree and two crowned figures seated on stools and holding drinking tubes above a jar. A star and a bird are used as fillers. A crescent seems to be supported on a rod, which in turn seems to rest on the drinking tubes. The function of the line connecting the lower ends of the drinking tubes is not clear (jar cover?). This seal[22] was probably made late in Phase I or during Phase J and is undoubtedly a Syrian rendering of the drinking scenes depicted on Mesopotamian seals.

"Studs"

One "stud" (Fig. 383:1) is of the domed type known in Phases F and G. It was found unstratified in an area which was yielding materials predominantly of Phase G.

A second "stud" (Fig. 383:2, Pl. 71:21) has no parallels in any of the early phases. It is from the Second Mixed Range and thus probably was made sometime during Phases H–J.

1 2

Fig. 383.—Stone "Studs": Second Mixed Range (*2*), Unstratified (*1*). Actual Size

An object from the Second Mixed Range which is registered as a "stud(?)" would seem from the photograph (Pl. 71:17) to be flat on top and bottom, with the bottom slightly splayed. This shape is not otherwise known in the ʿAmuq.

Stone Identifications

vessels

D51	greenstone, almost monomineralic chloritic, with some talc (Fig. 375:3)
D52	greenstone, almost monomineralic chloritic (Fig. 375:2)
D56	greenstone, almost monomineralic chloritic (Fig. 375:4)
D57	impure gray limestone (Fig. 375:6)
x3036	weathered rusty chlorite-rich greenstone (Fig. 375:5)
x3296	weathered rusty chlorite-rich greenstone (Fig. 375:1)

[20] Professor Frankfort (by word of mouth) considered this a peripheral Early Dynastic seal.

[21] Professor Frankfort (by word of mouth) considered this an imported Mesopotamian seal of Early Dynastic III style.

[22] Published by Frankfort, *op. cit.* Pl. XXXIX *f* and pp. 233–34, who considers it a peripheral seal of the Akkadian period; peripheral because the artist did not understand the scene and thus made the confused rendering of the tubes and the jar; Akkadian because the heads of the gods are rendered in undeniably Akkadian fashion.

CELTS

x1452 not analyzed
x2342 not analyzed
x3346 magnesium-rich fibrous amphibole, $n_\alpha = 1.616$ (Fig. 376:1)
x3515 hornblende-diabase with plagioclase laths (Fig. 376:2)
x3955 basic (probably monomineralic hornblende) rock (Fig. 376:3)
x5023 diabase with plagioclase laths (Fig. 376:4)

POUNDER

x5022 diabase containing hornblende, biotite, plagioclase, chlorite, trace of apatite, titanite, ore (Fig. 376:5)

PERFORATED HAMMERS

x45 in Antioch Museum; material not analyzed (Fig. 377:2, Pl. 68:10)
x3114 greenstone, almost monomineralic chloritic (Fig. 377:1, Pl. 68:9)

WHORL

x254 not analyzed (Pl. 69:8)

MACEHEADS

x965 in Antioch Museum; material (marble-like) not analyzed (Fig. 377:3, Pl. 68:3)
x1638 diorite containing plagioclase and epidote (Fig. 377:4, Pl. 68:7)

WEIGHT

T3522 hematite (Fig. 377:5)

UNCLASSIFIED OBJECTS

D58 limestone with calcite veins (Fig. 377:7)
T3593 chalk (Fig. 378:1, Pl. 68:13)
x1795 greenstone, almost monomineralic chloritic (Fig. 377:6)

BEADS

T3532 probably orthoclase partly altered to kaolin (Fig. 378:5)
x1245 weathered rusty chlorite-rich greenstone (Fig. 378:4)
x1426 greenstone, almost monomineralic chloritic (Fig. 378:2)
x1976 weathered soft red rock; not identified (Fig. 378:7)
x2048 limestone; red color caused by content of iron oxide (cf. Fig. 378:2)
x2360 agate (Fig. 378:3)
x2397 not analyzed (Pl. 70:2)
x5064 greenstone, almost monomineralic chloritic (Fig. 378:6)

STAMP SEALS

a2385 not analyzed (Fig. 379:8)
b29 not analyzed (Fig. 380:10)
b258 not analyzed (Fig. 379:10)
D44 greenstone, almost monomineralic chloritic (Fig. 379:5)
D50 greenstone, almost monomineralic chloritic (Fig. 380:8)
e310 not analyzed (Fig. 380:2)
T963 not analyzed (Fig. 380:5)
T2926 not analyzed (Fig. 380:9)
T3838*a* greenstone, almost monomineralic chloritic (Fig. 379:3)
T3838*b* greenstone, almost monomineralic chloritic (Fig. 379:4)
x19 not analyzed (Fig. 380:1)
x508 in Antioch Museum; material not analyzed (Fig. 380:7)

x1311 in Antioch Museum; material not analyzed (Fig. 379:2)
x1359 in Antioch Museum; material not analyzed (Fig. 379:1)
x2222 not analyzed (Fig. 379:11)
x4016 not analyzed (Fig. 379:9)
x5021 not analyzed (Fig. 379:6)
y269 not analyzed (Fig. 380:4)
y366 not analyzed (Fig. 380:6)
z125 not analyzed (Fig. 380:3)
z751 not analyzed (Fig. 379:7)

CYLINDER SEALS

a270 not analyzed (Fig. 381:7)
b41 lapis lazuli (Fig. 382:5)
b42 not analyzed (Fig. 382:1)
b397 not analyzed (Fig. 381:6)
T2174 greenstone, almost monomineralic chloritic (Fig. 382:2)
T3146 greenstone, almost monomineralic chloritic (Fig. 381:5)
T3583 calcite (Fig. 381:1)
T3837 greenstone, almost monomineralic chloritic (Fig. 381:4)
x968 in Antioch Museum; not analyzed (Fig. 382:6)
x991 greenstone, almost monomineralic chloritic (Fig. 381:2)
x03423 greenstone, almost monomineralic chloritic (Fig. 382:4)
x03427 weathered soft red rock; not identified (Fig. 381:3)
z899 not analyzed (Fig. 382:3)

"STUDS"

x1213 not analyzed (Pl. 71:17)
x2133 greenstone, almost monomineralic chloritic (Fig. 383:2, Pl. 71:21)
x3369 greenstone, almost monomineralic chloritic (Fig. 383:1)

WORKED BONE OBJECTS

Seventeen worked bone objects are described in this section. Eight (Fig. 384:5–8, 11–12 and Pls. 73:11, 74:16) come from the Second Mixed Range. Two (Pl. 75:12 and x2731*b*) were found unstratified in areas which yielded early materials, and two pins (Fig. 384:3 and x5063) are from the cave-in which yielded materials mainly of Phases F–H. Five bone objects (Fig. 384:1, 2, 4, 9, 10) are from Dhahab. In connection with the Dhahab objects which seem to fit typologically into Phase G it should be noted that Phase G pottery is not certainly present on Dhahab (see p. 15, n. 13).

The majority of the bone objects are made on metapodials, and three are identifiable as to origin. They come from Bos (Fig. 384:12, Pl. 75:12) and sheep (Fig. 384:1).

A sturdy implement from Dhahab (Fig. 384:1) has highly polished surfaces and retains the articular surface as butt. The working end is scarred and too blunt for an awl. The object was probably used as a flaker and most likely was made during Phase A (cf. Fig. 38:4).

A sharply pointed awl from Dhahab (Fig. 384:2) is almost slender enough to be classified as a pin, but most of the under surface still bears the grooving of the original bone. Phase F and especially Phase G contain comparable examples, and this awl probably was made during one of these phases.

A splinter awl with little working but highly polished from use (Pl. 73:11) is from the Second Mixed Range, but typologically it could belong to any of the phases.

Some of the head end of a simple pin (Fig. 384:3) is missing, but the contours seem to indicate that the articular surface (or most of it) was trimmed away. The flaring head still retains the deep groove of the original bone. The shaft is very slender and of oval section. This

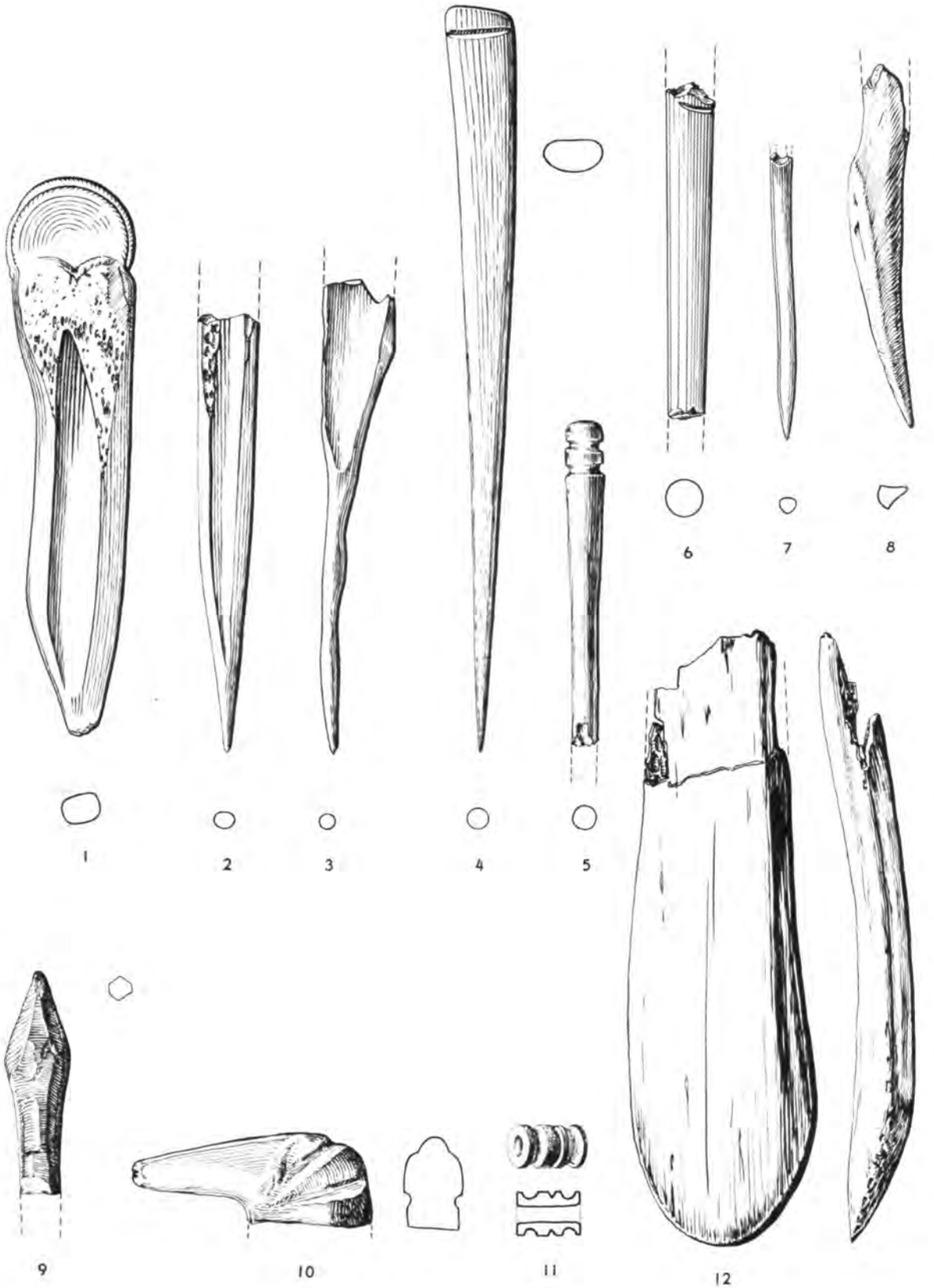


FIG. 384.—WORKED BONE OBJECTS: SECOND MIXED RANGE (*5–8, 11–12*), DHAHAB (*1, 2, 4, 9, 10*), UNSTRATIFIED (*3*). ACTUAL SIZE.

is one of the pins from the F–H cave-in. The type is common in Phase G and on the basis of present knowledge is confined to that phase. The other pin from the cave-in (x5063) has a triangular head, which is rectangular in transverse section. It has counterparts in Phases F and G (see p. 338 and Fig. 256:10). A pin from Dhahab (Fig. 384:4, Pl. 74:7) is oval in section at the head end and round for the lower two-thirds. The head is smoothly rounded and decorated on one surface with an incised groove. Although there is no exact parallel for this pin, it would best fit into Phase G, which has a great variety of pins with incised heads and some with single-grooved incision. A pin from the Second Mixed Range (Fig. 384:5) has two incised grooves on the head, a type of decoration commonly found in Phase G and continuing in Phase H. Another fragment from the Second Mixed Range seems to be a portion of the shaft of a long pin (Fig. 384:6). It has an incised groove halfway around the head end. It cannot be said whether the head extended much beyond the groove. A slender pointed fragment (x2731*b*) undoubtedly belonged to a type of pin with decorated head such as was found in Phases F–H. Its findspot would suggest Phase G. A Second Mixed Range pin with double-bored perforation in the flattened head (Pl. 74:16) is of a type encountered in Phases G and H.

A fragment from the Second Mixed Range which is broken at the perforation (Fig. 384:7) seems to be part of a needle. Although perforated pins, with heads too broad for needles in the modern sense, are found in Phases G and H, the only needle comes from the First Mixed Range (Fig. 103:3).

A sharp-pointed implement from the Second Mixed Range (Fig. 384:8) is made on an ulna. Its upper end is broken but probably served as a handle (or tang?). The narrow portion of the upper end is flat and was probably more or less lentoid in section. The remainder of the object is triangular in section, following the original shape of the bone. The entire right edge is fairly sharp, as are the other two edges toward the point, which is sturdy and very sharp. The object is polished all over but especially at the point.

The upper portion of a spatulate bladelike tool (Pl. 75:12), which at first glance seems to be broken, has smoothly ground edges. The intact center portion of the left edge of the tool is thick and rounded. The lower portion of this edge is partially broken, partially cut, off and forms a side rather than an edge. Most of the right edge is thin and fairly sharp down to and including the very end. The end itself is ground from one surface (illustrated) and is suggestive of an adz. There is some slight polish over the entire surface, but there is high polish over the working end, especially the beveled portion, along the sharp right edge, and along the smoothed portions of the upper end. It is perhaps possible that the lower end was once broader and even more spatulate, but the tool was certainly used in its present shape.

A crudely formed object from Dhahab (Fig. 384:9, Pl. 76:11) may have been used as a drill or as an arrowhead. Part of the tang is missing. The point is stocky but sharp. The section throughout is roughly circular. The object is whittled, and the surface is not smoothed but shows polish from use. No similar object was found in the excavations.

A tool from the Second Mixed Range (Fig. 384:12) has a spatulate end with very sharp convex edge. The other end is missing. The adzlike profile shows that the working edge was formed by grinding down one surface and thus exposing cancellous tissue. The entire tool, including the cancellous tissue, shows a high degree of polish.

An object from Dhahab which seems to be a simple representation of an animal's head (Fig. 384:10, Pl. 76:8) is probably incomplete, for the lower surface is not ground and is fairly rough, though it does show some polish. The rest of the object is smoothly finished and polished. A small horizontal groove indicates the mouth. Ears (flattened against the head) and eyes are in relief. Since no representational objects have yet been found in Phase A, it is likely that this head was made during Phase F, G, or H (cf. Fig. 193:7, of Phase F, and clay figurines of Phases G–H).

A carefully made long bead from the Second Mixed Range (Fig. 384:11) has polish over the entire surface. It is ornamented with grooves.

SHELL BEADS

Two beads of fossilized dentalium shell were found in the Second Mixed Range. One (Fig. 385, Pl. 78:10) is smoothly ground at both ends, and the outer flutes are slightly rounded off by polishing. The other (Pl. 78:11) had little, if any, working; the ends are broken off somewhat irregularly.

FIG. 385.—SECOND MIXED RANGE. SHELL BEAD (x1246). ACTUAL SIZE

BURIAL

The burial of an adult male (T S 24), found at the level of Ta^{c}yinat T 5 I 3, is possibly of Phase I or J. The sacrum-to-atlas direction was due south; the head rested on the right parietal, looking east. The elbows were close to the body, and the hands were close together at the right side of the pelvis. The lower legs were not preserved, and the bones generally were in rather bad condition (Pl. 79 *A*). The skull was sent to Chicago but was too fragmentary for restoration; no physical data are available. A plain bronze(?) ring (T3740[23]) was found under the right ear; there were no other *Beigaben*.

NONARTIFACTUAL MATERIALS

FLORA

Two batches (x5094–95) of grain from Judaidah TT 20 X 1 (Second Mixed Range) are classified as barley (*Hordeum vulgare* L. and a few divergent kernels which may possibly be *Hordeum spontaneum* C. KOCH).

VERTEBRATA

Homo sapiens: T S 24, too fragmentary for study.

[23] Discarded, according to the field register.

XIV

RELATIVE CHRONOLOGY AND INTERPRETATION

INTRODUCTION

ALMOST twenty years have passed since our last field season in the ʿAmuq. In the meantime substantial contributions to knowledge of the late prehistory of southwestern Asia have been made, and new dimensions for interpretative speculation about what the anthropologists would call the general "culture-history" of the time range and area have been conceived of. Had we completed this chapter perhaps only five years after the dig closed, it would now (1958) have to be rewritten. Thus we are impressed by the transient nature of any archeological "conclusions" when so much yet awaits discovery in the field. Our "conclusions" therefore will be brief and suggestive rather than detailed and fully "trait-listing," since they also will be transient. Some of our interpretative notions, as they bear upon the early ʿAmuq, have already been suggested in print.[1]

I have one further introductory observation to make, in retrospection. None of our readers can be any more impatient with our work of twenty and more years ago than we ourselves now are. At that time we had little sense of what it means to be professional prehistorians or of the questions that a prehistorian properly asks. In the ʿAmuq we were largely doing "object archeology"—I suspect probably about as well as anyone else at the time—but we were little conscious of "idea archeology." Our intellectual orientation was much more one of looking backward from historic times than one of looking forward from the long range of Pleistocene prehistory to the first achievement of effective food production as evidenced in the way of life of the village-farming community. We did not arrange our operations for the greatest possible advantage in the exposure of village plans or even individual houses, nor did we question ourselves about the village as an expression of a new societal form. We were vaguely conscious of the value of reclaiming evidence of different traditions in flint tool-working, but we did not clearly visualize it as the end product of a much older artifactual means of assuring subsistence. Our attention to the important, coarser, ground stone categories was slight, and we were not conscious that microlithic-scale flint and obsidian tools need to be looked for with greatly tightened techniques of excavation. Our attention to the whole range of documentation possible with aid from the natural sciences was most rudimentary; Helbaek's reclamation of food plants from Phase A Coarse Simple Ware plant tempering (see pp. 540–43) is a voice from the grave, as it were.

Our exasperation with our efforts of twenty years ago extends even to the more familiar categories of "object archeology." It will be obvious to the reader that our treatment of pottery, for example, is not primarily in terms of vessels which living men and women made to keep something in but rather as something made for archeologists to catalogue and classify and make painted-motif repertoires of. Such treatment is natural in the pioneering work necessary to establish the comparative archeological (more properly "artifactual") stratig-

[1] See especially Robert J. and Linda Braidwood, "The earliest village communities of southwestern Asia," *Journal of World History* I (1953) 278–310; Robert J. Braidwood, "A tentative relative chronology of Syria from the terminal food-gathering stage to *ca.* 2000 B.C.," in Robert W. Ehrich (ed.), *Chronologies in Old World Archeology*, pp. 34–41; "The earliest village materials of Syro-Cilicia," *Proceedings of the Prehistoric Society* XXI (1955) 72–76; "Reflections on the origin of the village-farming community," *The Aegean and the Near East: Studies Presented to Hetty Goldman*, pp. 22–31.

raphy and relative chronology of a newly tapped area, but we now realize that it is far from the archeologist's whole task.

Our one consolation is that our operations disturbed only infinitesimal amounts of the prehistoric depths of the great mounds which we worked. A modest but, we feel, reliable and almost complete outline of the artifactual stratigraphy for a fair portion of latest prehistoric time in northwestern Syria has been established. The successive assemblages are in themselves far too modest in yield to allow much really full-bodied interpretation of the ways of life of the extinct cultures which they represent. They may, however, quite safely be used for a general picture of northwestern Syria's place in the growing body of knowledge of the general artifactual stratigraphy and relative chronology of southwestern Asia as a whole. This, essentially, is what the prehistoric activities of the Syrian Expedition accomplished.

PRELUDE TO PHASE A

Both T. P. O'Brien[2] and İ. Kılıç Kökten[3] have noted surface occurrences of flint tools of Pleistocene type in the ʿAmuq, and Muzaffer Şenyürek and Enver Bostancı[4] have recently undertaken the excavation of a cave overlooking the Mediterranean on the foothills of the Musa Dağ, where a yield of Levalloiso-Mousterian flake tools, succeeded by blade tools, is announced. Apparently there is no reason why a Pleistocene artifactual sequence in flint tools, perhaps roughly comparable with that of the Lebanese-Palestinian littoral, should not be expected in the ʿAmuq.

What we now call the terminal era of the food-collecting stage[5] is as yet evident archeologically only in Palestine (i.e., the Kebaran) and Iraqi Kurdistan (i.e., the Zarzian). The Shanidar B counterpart of the Zarzian is dated by radioactive carbon to about 10000 B.C.[6] There is not yet a C^{14} date for the Kebaran, but on typological grounds it appears approximately equivalent to the Zarzian. It will indeed be strange if some form of this terminal era of food collecting does not presently manifest itself archeologically in northwestern Syria.

Our conception of the first era of the food-producing stage, which we have called an era of incipient agriculture,[7] has increasingly tended to focus about the notion of an environment which includes the potentially domesticable plants and animals in their natural habitat.[8] It will be exasperatingly difficult to focus this notion until a great deal more is known of the paleo-ecology of southwestern Asia. It is also exasperatingly difficult as yet to say meaningfully why an assemblage should be classified as showing incipient cultivation.[9] But we have in mind assemblages of the general complexity of the Natufian of Palestine and of Karim Shahir in Iraq, to which now M'lefaat, Gird Chai,[10] and Zawi Chemi Shanidar[11] should be added. Northwestern Syria has yielded nothing comparable as yet. It will be possible to assess the case better when more is known of the paleo-ecology of the natural habitats of the potential cereal and animal domesticates, but, on the analogy of the geographical disposition

[2] See *Man* XXXIII, No. 182 (p. 178).

[3] See "Anadolu'da prehistorik yerleşme yerlerinin dağılışı üzerine bir arastırma," Ankara Universitesi, *Dil ve Tarih-Coğrafya Fakültesi Dergisi* X (Ankara, 1952) map opposite p. 194.

[4] See "The excavation of a cave near the village of Mağracik in the vilâyet of the Hatay," *Anatolia* I (1956) 81–83.

[5] See *Journal of World History* I 278–310.

[6] Ralph S. Solecki, "Shanidar Cave: a Paleolithic site in northern Iraq," *Annual Report . . . of the Smithsonian Institution . . . for the Year Ended June 30, 1954* (Publication No. 4190 [Washington, D.C., 1955]) p. 414.

[7] See *Journal of World History* I 278–310. We now prefer "incipient cultivation."

[8] See Robert J. Braidwood, "Jericho and its setting in Near Eastern prehistory," *Antiquity* XXXI (1957) 73–81; Braidwood and Reed, "The achievement and early consequences of food-production: a consideration of the archeological and natural-historical evidence" (*Cold Spring Harbor Symposia on Quantitative Biology* XXII [1957] 19–31).

[9] See *Journal of World History* I 282–83.

[10] See Vivian Broman in Robert J. Braidwood, "The Iraq-Jarmo Project," *Sumer* X (1954) 122–23.

[11] See Solecki, "The 1956 season at Shanidar," *Sumer* XIII (1957) 167–68.

of some of the Natufian sites, we would guess that traces of the era may be expected in the ᶜAmuq and its environs.

However assemblages of the complexity of the Natufian and Karim Shahir are finally classified in terms of subsistence levels, neither they nor our conception of an era of incipient cultivation is the direct equivalent of the "mesolithic" of northwestern Europe. Since our reasoning on this point is developed elsewhere,[12] suffice it to say that it clusters about two notions. First, the usage "mesolithic" has real meaning only if applied to assemblages which clearly imply cultural readaptations on a food-collecting level to the postgalcial environment, the time boundary for which is about 8000 B.C. Second, the era of incipient cultivation may well have started earlier than this, though it was restricted to the natural habitat of the potential plant and animal domesticates. Permissive mutations or introgressive hybridizations, which allowed both a degree of self-sufficiency in food production and movement out of the natural habitat, probably mark the beginning of the next era—that of the settled village-farming community. The new, although admittedly somewhat confusing, radioactive-carbon dates for Jarmo and Tell al-Sultan (Jericho) suggest that the era of the village-farming community itself may have begun not too long after 8000 B.C., just later than the late-glacial/post-glacial time boundary.[13]

The earliest known phases of the era of the effective village-farming community now appear to have begun before the development of pottery. The basal levels of Jarmo and Tell Shimshara[14] in Iraqi Kurdistan are no doubt examples of an early phase of this era still within the natural-habitat/hilly-flanks zone. But the considerable depth of deposit at the base of Tell al-Sultan,[15] several Cypriote sites (especially Khirokitia[16]), and now apparently (on the basis of personal communications from Vladimir Milojčić and Saul S. Weinberg) several sites in Thessaly assure us that the preceramic spread of villages had considerable momentum. It would be surprising if something roughly equivalent—in the technological/subsistence-level sense—did not happen in northwestern Syria. Such a thing is not yet manifested archeologically, nor has anyone to our knowledge consciously looked for such a manifestation. The ᶜAmuq Phase A assemblage seems to spring into being fully blown, which is hardly credible.

I have speculated elsewhere recently[17] on the cultural mechanics of spread during the era of incipient cultivation and the earliest phases of the era of the effective village-farming community. These speculations involve the notion of a sort of amorphous *oikoumenê* throughout most of southwestern Asia and particularly throughout the natural-habitat/hilly-flanks zone. Within this *oikoumenê* there would have been, I suppose, a flow of general ideas and the spread of the plant and animal domesticates themselves. The flow of general ideas would have assured the dispersion of certain gross traits and over-all know-how but not necessarily specific ways of doing things. The latter are much more likely to have developed locally, on the basis of existing regional cultural patterns. Hence it seems natural that, while the gross traits of ᶜAmuq Phase A rather closely parallel those of the early Hassunan assemblage, for example, the two assemblages show different complexions when examined in detail. Moreover, it seems unnecessary to look outside the region of northwestern Syria for the antecedents of ᶜAmuq A and its approximate nearby equivalents.

While it is difficult to speak precisely, the available categories of the ᶜAmuq Phase A

[12] In Braidwood and Reed, *op. cit.*, and an interim report on the Iraq-Jarmo Project which is now in preparation.

[13] See Robert J. Braidwood, "Near Eastern prehistory: The swing from food-collecting cultures to village-farming communities is still imperfectly understood." *Science* CXXVII (1958) 1419–30.

[14] See Harald Ingholt, "The Danish Dokan Expedition," *Sumer* XIII 215.

[15] See Kathleen M. Kenyon, *Digging up Jericho* (London, 1957).

[16] See Porphorios Dikaios, *Khirokitia* (Oxford, 1953).

[17] *Antiquity* XXXI 80–81 and the forthcoming interim report on the Iraq-Jarmo Project.

assemblage give us an impression of general cultural consistency, integration, and strength of tradition. This impression suggests that an antecedent assemblage or assemblages, yet to be found, would likewise have a characteristic complexion. It is in this postulated earlier range, perhaps the latter part of the era of incipient cultivation and the first phase or phases of the era of the effective village-farming community, that the general culture pattern of the Syro-Cilician region would have developed and differentiated itself. At present, only the end product of the development and differentiation is archeologically available, in the materials of Phase A type. It has already seemed reasonable to us to treat this end product as one of the "essential" (i.e., innate or largely indigenous) early-village assemblages of southwestern Asia.[18]

PHASE A

The materials treated as of Phase A (pp. 46–67) plus those found at Yümük Tepe (Mersin) below level XXVII (where painted pottery begins[19]) indicate the "essential" Syro-Cilician Dark-faced Burnished Ware assemblage. The name is cumbersome but explanatory; on the basis of priority of discovery of the material in its "essential" form, we might claim the right to name it "ᶜAmuqian," but we have no strong feelings in the matter.

The familiar hallmark of this "essential" assemblage is its dark-faced burnished pottery, but we suggest that its chipped or flaked stone industry as seen at both Tell al-Judaidah and Yümük Tepe is just as characteristic. Since the exposures on both sites were pitifully restricted in area, there is unfortunately little to generalize on architecturally. Field stone appears to be used at least as founding, if not for the lower courses, of walls of rectilinear structures. At neither site is there evidence of plastered and burnished walls and floors. The nonappearance of this trait (in admittedly restricted exposures) is exasperating, for it does seem to appear at other sites that we shall presently notice. It may yet prove to be another general characteristic of the assemblage.

In Cilicia, nearer the source of obsidian, that material was more frequently utilized in the chipped stone industry than it was in the ᶜAmuq, where the same type of long-tanged projectile (javelin) point was produced more commonly in flint. In ground stone, fully ground celts are the order. In the ᶜAmuq at least, these are predominantly ax-bitted, and the short transverse section tends to be rectangular. There are hints of a respectable industry in ground stone bowls; Judaidah yielded a spouted-bowl or lamp fragment (Fig. 32:8), and Yümük Tepe what seems to be the lip portion of a lamp.[20] Stamp seals are part of the assemblage in the ᶜAmuq (see Fig. 37), and the excavators of Yümük Tepe may have been too timid in considering their seal contextless.[21] The early (i.e., pre-Halafian) appearance of the "double-ax" bead (see p. 62) is interesting. Judaidah also yielded two purposely ground prolate spheroids (Pl. 69:18–19) of sling-missile size; the occurrence of sling missiles in stone rather than clay and in a context which includes projectile points is likewise interesting.

The pottery from the minute basal pit at Gözlü Kule (Tarsus), at about 30.50–32.00 m. (virgin soil not reached because of ground water), included standard Dark-faced Burnished Ware as well as a light gritty simple ware. There are clear indications of the standard chipped stone industry also, but unfortunately most objects of this category were found as strays in later contexts. Architecturally, "finely faced polished wall plaster" as well as the use of stone rubble is noted.[22]

[18] See Robert J. Braidwood, *The Near East and the Foundations for Civilization* (Eugene, Oregon, 1952); *Proceedings of the Prehistoric Society* XXI (new series) 72–76; *Journal of World History* I 278–310.

[19] Cf. *Journal of World History* I 293 with John Garstang, *Prehistoric Mersin* (Oxford, 1953) p. 39, where level XXVII is said to mark the appearance of painted decoration on pottery.

[20] Garstang, *op. cit.* p. 17 and Fig. 9.

[21] See *ibid.* p. 17.

[22] Hetty Goldman, *Excavations at Gözlü Kule, Tarsus* II (Princeton, 1956) 5, 65, 255 ff.

We are inclined to consider Ras Shamra as lying at least on the border, if not within, the regional focus of the "essential" Syro-Cilician Dark-faced Burnished Ware assemblage. About 3.6 m. at the base of Ras Shamra, the excavator's level V,[23] yielded apparently standard dark-faced burnished pottery. No details are available on the chipped and ground stone and bone tools which evidently accompanied the pottery, but two architectural observations are interesting. Schaeffer refers to "trois minces couches de terre calcaire blanc—jaunâtre, légèrement rosée, couvertes d'un enduit fine, à surface lisse" and to "briques."[24] We ourselves wonder whether the word "briques" is meaningfully used (cf. p. 507), but the floor or wall treatment does fall into the general picture.

We are, however, reluctant to treat Ras Shamra V as a direct Phase A equivalent because of Schaeffer's reference to pattern burnish ("... ornés uniquement de stries verticales ... par ... brunissage"[25]); also we have seen some pattern-burnished sherds in the Musée de St. Germain. Pattern burnish does not appear in the ʿAmuq until Phase B and is evidently part of the type material of the earliest levels at Coba Hüyük (Sakçagözü),[26] which cannot be classified as earlier than Phase B and is more probably of Phase C (see p. 506).

There may, of course, be local ceramic variants at the level of Phase A on the different sites. Our Washed Impressed Ware (Fig. 28) does not seem to be represented outside the ʿAmuq, and the Cilician and ʿAmuq simple wares differ in detail.

Suppose we take as a working hypothesis the artifactual cluster listed above for Judaidah and Yümük Tepe as an indication of the existence of an "essential" assemblage in Syro-Cilicia. The yield from the basal levels of Gözlü Kule appears to conform nicely, and that from the base of Ras Shamra may do so in part. The impression of an "essential" Syro-Cilician Dark-faced Burnished Ware assemblage is strengthened if its available artifactual elements are contrasted with those of the other available "essential" assemblages of the Near East (e.g. basal Hassunah, Siyalk I, Tell al-Sultan, and Fayyum A).[27] In broader terms, we may hypothesize that we are dealing with the traces of a cultural pattern which had its greatest strength of focus in Syro-Cilicia. As we move away from this geographical focus, we may expect to encounter artifactual elements more at home in other foci.

Such appears to be the case as we examine what little evidence is available to both the south and the east of Syro-Cilicia. Here, even more than in the case of Ras Shamra, we are faced with the necessity for caution in specifying whether a given yield is typologically equivalent to that of Phase A alone or to the community or commonalty of elements which flow from Phase A into Phase B and perhaps even into Phase C. If we first look eastward at sites lying between the Syro-Cilician and Tigris-basin (Hassunan) foci, we find five recorded occurrences of Dark-faced Burnished Ware: at Tell Shaghir Bazar, Tell al-Halaf, the Jabbul Plain, Carchemish, and Yunus. But only at Halaf does the burnished ware seem to appear separately from and before painted pottery. It is possible that the "altmonochrome" pottery of Halaf[28] is typologically equivalent to the burnished ware of ʿAmuq Phase A, although

[23] To the best of our knowledge, the pertinent material is given most attention in Claude F. A. Schaeffer, "Les fouilles de Ras Shamra-Ugarit, sixième campagne (printemps 1934)," *Syria* XVI (1935) 164–68, and *Ugaritica* I ("Bibliothèque archéologique et historique" XXXI [Paris, 1939]) pp. 4–7. Four small pits tapped the pertinent horizon; the total exposure cannot exceed 40 sq. m., and it is not clear whether all the pits reached virgin soil. Because of the restricted exposure, we reserve judgment on Schaeffer's inclination to see a pre-pottery phase of Ras Shamra V in the lowermost meter. Professor Schaeffer now informs us by letter (February 25, 1958) that *Ugaritica* IV (in press) contains reports on the 1953–56 depth *sondage* at Ras Shamra (cf. Braidwood in *Proceedings of the Prehistoric Society* XXI [new series] 74, n. 1).

[24] *Syria* XVI 165.

[25] *Ibid.* p. 164.

[26] See J. du Plat Taylor *et al.*, "The excavations at Sakce Gözü," *Iraq* XII (1950) 83 ff.

[27] See *Journal of World History* I 292–93.

[28] Max Freiherr von Oppenheim, *Tell Halaf.* I. *Die praehistorischen Funde,* bearbeitet von Hubert Schmidt (Berlin, 1943) pp. 25–31.

its profiles vary, but we know practically nothing about the other elements in its cluster.[29] The appearance of a Hassunan "husking-tray" fragment at Halaf is not surprising, given its geographical position. Dark-faced Burnished Ware, some of which at least seems pertinent to the ceramic characteristic of Syro-Cilicia, appears at three sites in the Tigris basin proper: Tell Arpachiyyah, Tell Hassunah, and Nineveh. Also, at Hassunah, the Syro-Cilician projectile (javelin) point may be evidenced,[30] but this probably represents a two-way exchange of traits that occurred between the two foci in Phase B times (see p. 506).

To the south of Syro-Cilicia, the single recorded inland occurrence of Dark-faced Burnished Ware is in a restricted test pit at Hamah (level M).[31] Here again, as at Gözlü Kule and Ras Shamra, the burnishing of walls is mentioned along with the pottery. Along the coast there are two sites to mention (if Ras Shamra is assumed to fall within the Syro-Cilician focus proper): Tabbat al-Hammam[32] and Jubail (Byblos).[33] The exposure at the former yielded no traces of architecture, but at Jubail there were compacted clay-lime floors and wall butts with burnished surfaces. The latter feature gives substance to observations made at Gözlü Kule, Ras Shamra, and Hamah. At Tabbat al-Hammam the standard Dark-faced Burnished Ware has a cord-marked counterpart (not seen in the north), and at Jubail the standard series has several counterparts, one of which is cord-marked.

The Tabbat al-Hammam flint industry is especially interesting. While it does not conform directly with that of Syro-Cilicia, certain basic similarities apparently existed in the tool kits of early villagers from Cilicia down into Palestine.[34] This suggestion of general rather than specific homogeneity in the over-all flint-working tradition follows from the contrast which the Syro-Cilician and Palestinian flints show with those of Egypt, on the one hand, and Iraq, on the other. The Tabbat al-Hammam industry has more specific connections with Palestine than with the ʿAmuq, however; its projectile points are of types seen also at Jubail, Abu Ghosh, and basal Tell al-Sultan. Its simple sickle blades are longer than those of Syro-Cilicia and more similar to those of early Tell al-Sultan[35] and Abu Ghosh. Among the sickle blades are a few coarse-toothed examples that are specifically southern, and some specimens of this type appear at Jubail also.[36] Double-ended blade cores and the relative abundance of gravers bind Tabbat al-Hammam to early Tell al-Sultan and Abu Ghosh; gravers are less common in Syro-Cilicia. Finally, the Tabbat al-Hammam celts, of flint and limestone, shaped by chipping and with the bits defined by polish, definitely fit into the Palestinian rather than the Syro-Cilician picture. On the basis of the illustrated material from Byblos "énéolithique A," its flint industry seems not unlike that of Tabbat al-Hammam.

It is not yet possible to explain the nonstandard, from a Syro-Cilician point of view, ceramic

[29] See *Journal of World History* I 298–99.

[30] See *ibid.* p. 304.

[31] Harald Ingholt, *Rapport préliminaire sur sept campagnes de fouilles à Hama en Syrie (1932–1938)* (Det Kgl. Videnskabernes Selskab, "Archaeologisk-kunsthistoriske Meddelelser" III 1 [København, 1940]), p. 11.

[32] See Robert J. and Linda Braidwood, "Report on two sondages on the coast of Syria, south of Tartous," *Syria* XXI (1940) 196–203, 222–26.

[33] See Maurice Dunand, "Rapport préliminaire sur les fouilles de Byblos ... ," *Bulletin du Musée de Beyrouth* IX (1949–50) 53–74 and XII (1955) 7–23, and "Chronologie des plus anciennes installations de Byblos," *Revue biblique* LVII (1950) 583–603; cf. Braidwood in *Proceedings of the Prehistoric Society* XXI (new series) 72–76.

[34] Jean Perrot ("Les industries lithiques palestiniennes de la fin du Mesolithique à l'Age du Bronze," *Israel Exploration Journal* II [1952] 73–81), working independently from the Palestinian point of view, sensed the same possibility of an underlying Syro-Palestinian flint-working tradition in earliest village culture horizons.

[35] Our comprehension of the Jericho flint work depends on Mrs. Joan Crowfoot Payne's description (*AAA* XXIV [1937] 46–50) for the levels numbered IX to XII by Garstang. The flints from Miss Kenyon's excavations have not yet been described, but she notes that Garstang's "Jericho IX was stratigraphically completely mixed" and sees "a *complete* break between the pre-pottery phase and that of the first Neolithic pottery" (*Antiquity* XXXI 83). It will be interesting to see how the two descriptions integrate when Miss Kenyon's report becomes available.

[36] *Revue biblique* LVII, Pl. X.

elements of Tabbat al-Hammam and Jubail in terms of a well defined "essential" assemblage to the south. We have speculated[37] that such an assemblage may yet be found along the southern Lebanese and Palestinian littoral, but, so far as we know, nothing pertinent has been reported. It does seem fairly clear that nothing in the yield of Tell al-Sultan is part of this picture, except possibly the special treatment of floors and walls and the underlying similarities of the flint industries.

As for the bearing of the "essential" Syro-Cilician Dark-faced Burnished Ware assemblage on developments in the northwest and the Aegean, we doubt that anything can be added to my contribution in honor of the late V. Gordon Childe.[38] The generalized indications of diffusion in this direction cannot be doubted, but a great deal more archeological detail must become available before we can achieve precision.

Two radioactive-carbon dates bear on the material under discussion. Matson, as a member of the Iraq-Jarmo Project staff in 1954/55, secured a hearth sample from about a meter above the water line at Yümük Tepe, and M. Dunand allowed him to extract a large fragment of burned log from a Byblos A burnished-floor structure. These samples, counted by Dr. Meyer Rubin of the United States Geological Survey counter in Washington, D.C., gave the following results:

W627, Byblos A	*ca.* 6550 B.P. (4600 B.C.) ± 250
W617, basal Yümük Tepe	*ca.* 7950 B.P. (6000 B.C.) ± 250

At the moment, the whole radioactive-carbon dating situation for the Near East is confused, and it will probably remain so until a much larger series of samples from many sites becomes available. Dr. Rubin tells us that, while he is easily able to quantify his necessary instrumental tolerance (the figure given after the ± sign), he cannot quantify the differences he often notes in relative quality of samples submitted. Our own tendency, at present, is to consider radioactive-carbon dates general, but not specific, indications of real time. Thus, since on typological grounds a difference of fifteen hundred years between basal Mersin and basal Byblos seems unreasonable, we are inclined to reason that both sites date near the middle of the time span suggested by the two radioactive-carbon dates. In 1946 my guessed date for the general chronological level of such assemblages as ʿAmuq A and the Hassunan was 5500 B.C. ± 500 years.[39] We are now inclined to return to about this date, since the general trend toward earlier radioactive-carbon dates is forcing us to give up our preference for a short chronology.[40]

Finally, we have no bases for substantial general cultural interpretation. No impression of settlement size or complexity is yet available for Syro-Cilicia, although Dunand has exposed at least a thousand square meters of Byblos A. The more than 6.50 m. depth of deposit at Yümük Tepe hints at some duration and permanence of settlement; the cave in the Wadi al-Hammam near Judaidah (see p. 18) suggests that living, for part of the year at least, was not confined to villages. Helbaek's evidence from Judaidah (see pp. 540–43) suggests that emmer wheat and barley were being cultivated; extrapolation back from the succeeding phases at both Judaidah and Yümük Tepe suggests that grain may have been stored in simple circular pits.

The Judaidah animal bones tentatively (see p. 44, n. 61) indicate pig, sheep or goat, and

[37] *Journal of World History* I 289.

[38] *Proceedings of the Prehistoric Society* XXI (new series) 72–76.

[39] Robert J. Braidwood, "A synoptic description of the earliest village-culture materials from the Aegean to the Indus," *Human Origins: An Introductory Course in Anthropology—Selected Readings* II (2d ed.; Chicago, 1946) No. 18, chart 1 (following p. 182).

[40] See *Proceedings of the Prehistoric Society* XXI (new series) 75. A letter from M. Dunand (March 30, 1958) informs us of a second age determination, made on charred wood found between two floors of Byblos A and about 80 cm. deeper than Matson's sample. The resultant new date, from Professor H. de Vries's laboratory in Groningen, is provisionally set at 7000 B.P. (5050 B.C.) ± 80.

cattle (p. 67), and one of the equines seems implied (see p. 543), but no wild forms are listed (but see deer in Phase B; p. 99). The fine projectile points complement this picture, and one wonders whether the two prepared slingstones are also part of it. Clay sling missiles far outweigh projectile points in the Hassunan assemblage, and Childe[41] gave this matter some attention.

The occurrence of obsidian at Judaidah and in some quantity at Yümük Tepe suggests that neither site was isolated. In fact, the general spread of obsidian at or before this horizon is the strongest suggestion for the sort of *oikoumenê* on which we have speculated (see p. 500).

For the most part, traces of activity in the less immediately utilitarian realms of culture elude us. Some aesthetic concentration and the time to indulge in it are suggested by the "double-ax" beads and the objects which we assume to be stamp seals (see p. 63, n. 15), also by the simple decoration of pottery and the care obviously taken in the preparation of some of the stone bowls. But the over-all complexion of the available elements of the assemblage suggests that the culture which produced it was itself still in an "essential" phase. However, one senses also that a degree of momentum was being built up for what was to come.

An adequate exposure of a Phase A type site in Syro-Cilicia, with—hopefully—something of its antecedent phase or phases, would be an extremely gratifying archeological experience.

PHASE B

The materials from levels XXVII through approximately XXIV at Yümük Tepe appear to us to parallel and in fact elaborate those of the range of technological traditions suggested by Phase B in the ʿAmuq (pp. 68–99). We probably do not have all the expectable Phase B manifestation in our JK 3 exposure on Judaidah nor evidence of the point of contact between Phase B and Phase C (see pp. 68, 137). Yümük Tepe probably includes a late aspect of Phase B, with Halafian influences evidently first appearing at about level XXIII and becoming stronger in the immediately following levels.

The architectural traces in Phase B on Judaidah, if we include those of JK 3:23 ff. (see pp. 102–3), which we now believe may be added (but see p. 100), are consistent with and gain substance from the traces in Yümük Tepe. Both sites yielded rectilinear structures with field stone foundations, also stone-founded and -floored pits presumably for grain storage. For the pits at least, at both sites, there is evidence of *tauf* walling above the stone founding. Little can be said of the general plan concept of the houses or of circulation within them. In Yümük Tepe XXVI the rooms all appear to be small,[42] and some may have served as interior grain-storage bins.

The rest of the assemblage suggests elaborations of the main artifactual traditions of Phase A plus several new elements. At Judaidah, for example, the Dark-faced Burnished Ware profiles become crisper, the potting in general is more competent, and pattern burnish appears. At both sites the older habits in the production of chipped stone tools persist. The same is true of ground stone objects at Judaidah at least, where refinements in the cutting of stamp seals and in bead-making may be noted.

At both sites the most easily comprehensible trace of outside contact is the appearance of Hassunan type incised decoration on coarse ware (see Fig. 42).[43] A suggested parallelism

[41] "Axe and adze, bow and sling: contrasts in early Neolithic Europe," *Jahrbuch des schweizerischen Gesellschaft für Urgeschichte* (Société suisse de préhistoire) XL (Zurich, 1950) 159–61; "The significance of the sling for Greek prehistory," *Studies Presented to David Moore Robinson* I, ed. George E. Mylonas (St. Louis, Missouri, 1951) pp. 1–5.

[42] Garstang, *Prehistoric Mersin*, Fig. 12.

[43] See also *ibid.* Fig. 37; Seton Lloyd and Fuad Safar, "Tell Hassuna," *JNES* IV (1945) 279–81 and Figs. 3–4. It was during a visit to the Syrian Expedition camp in 1936 that M. E. L. Mallowan called this feature to our attention, his point of reference being Ninevite I (see *AAA* XX [1933] 150) because Hassunah was then undug.

is the resemblance of the painted ware to the Hassunan "archaic painted ware."[44] We feel that this resemblance is rather generalized; it becomes more comprehensible, however, if the incised decoration on coarse ware and the occurrence in the Hassunan of a trace of the Syro-Cilician type Dark-faced Burnished Ware and possibly the javelin (see p. 503) are added to the equation.

The traces of a two-way exchange with the Hassunan focus introduce the question of sites of this general time range in the middle ground between the Syro-Cilician and the upper Tigris basin foci. As in Phase A (see p. 502), it is difficult to arrive at precision, but it is probable that the Dark-faced Burnished Ware occurrences at Carchemish and Shaghir Bazar are contemporary with Phase B at the earliest and that the Yunus material is equivalent to that of Phase C.[45] Some unspectacular painted sherds found at Tell al-Halaf and classified by Hubert Schmidt as "Nachahmung der Glanzmalerei"[46] look like Phase B Brittle Painted Ware, and another sherd[47] may be Hassunan incised ware.

Before we look southward from Syro-Cilicia, there are Gözlü Kule and Coba Hüyük to consider. The lowest levels reached at Coba Hüyük included painted pottery and a pattern-burnished complement with the Dark-faced Burnished Ware; these we take[48] to represent Phase B at the earliest and more likely early Phase C, since the chipped stone industry does not conform to that of Phases A-B. The excavators of Gözlü Kule seem to sense discontinuity between their "Neolithic" and "Chalcolithic" pottery, although Miss Mellink occasionally hints at continuity as well.[49] To our eyes there is nothing which clinches the possibility of a Phase B counterpart in the Gözlü Kule test pit, and the "Chalcolithic" level is said to be "comparatively barren of implements" in chipped stone.[50]

A site in the ʿAmuq itself needs mention here, though we know little of it beyond a brief description in a popular account.[51] The basal level (XII) of Tell al-Shaikh, 2 miles west of Tell ʿAtshanah, is said to have yielded only plain black pottery with "occasional burnishing" and "rough stone implements." The pottery is said to "prevail" in the next level (XI), but mixed with sherds of "the painted pottery of Tell Halaf." Since the exposure was admittedly small and evidently shallow, we would guess that level XII is of Phase B at the earliest.

As noted above (p. 502), pattern burnish is present in Ras Shamra V, which thus could strictly be considered as of Phase B rather than Phase A. Hamah M must be as early as Phase B, if not Phase A. As to the two more southerly coastal sites, Tabbat al-Hammam and Jubail, the general complexion of their basal assemblages is sufficiently different (see p. 503) that we have no firm grounds for judging whether they are of Phase A or Phase B.

What we can now suggest of the traces of linkage between the two culture patterns represented archeologically by Phase B in Syro-Cilicia and the Hassunan in the upper Tigris basin has already been hinted at. We have nothing to add for Phase B to what has been said above (p. 504) about extensions to the northwest and west save that we shall not be surprised if Mellaart's new excavations near Hacılar in Anatolia (described in personal communication from Seton Lloyd) yield something pertinent. But there is nothing yet available to the south of Jubail which, to our minds, has specific pertinence to the Syro-Cilician developments in the Phases A–B range.

If the basal material at Jubail represents Phase B rather than Phase A, it might explain at least some of the time discrepancy between the basal Mersin and Byblos A radioactive-carbon dates (see p. 504).

[44] See Garstang, *op. cit.* p. 40.

[45] See *Journal of World History* I 298–302.

[46] Oppenheim, *Tell Halaf* I, Pl. XCVIII 1–3.

[47] *Ibid.*, Pl. XCVIII 4.

[48] *Journal of World History* I 292.

[49] Goldman, *Excavations at Gözlü Kule* II 5 and 72 ff.

[50] *Ibid.* p. 256.

[51] Sir Leonard Woolley, *A Forgotten Kingdom* ("Pelican Books" A261 [Harmondsworth etc., 1953]) pp. 24–31.

Again, as for Phase A, little can be said concerning general cultural interpretation. The Syro-Cilician–Hassunan linkage suggests a strengthening of cultural contacts and implies also some blurring of the "essentialness" of the general assemblage, but we still have a great deal to learn.

PHASE C

Phase C took on definition, as our minds worked in our "object-archeology" days, as beginning with the impact of the Halaf painted ware tradition upon the ceramic of Phase B. We now sense that, were the evidence of an over-all assemblage really available from our sites and others, there would be much more change to see than in painted pottery alone. For example, Yümük Tepe XXIII marks the appearance of mud brick in the architecture of that site,[52] while at neither Judaidah nor Kurdu did we reclaim such evidence. In the ʿAmuq the old Phases A–B chipped stone industry is replaced by an unknown tradition, which is represented at Coba Hüyük also.[53]

Literally no sophisticated treatment of the chipped stone complement of the Halafian assemblage is available,[54] so that we have as yet no other point of reference for the new chipped stone industry. Its developed aspect, however, is manifested at Tell Zāidan on the Euphrates (see p. 511).

As to the use of mud brick, the situation is confused. The generalization has been that mud brick appears with the ʿUbaid assemblage in northern Iraq. Mallowan, however, speaks of pisé lumps at Arpachiyyah and gives sizes for them but then refers to walls below TT 6 as "of beaten clay or pisé," with a tholos of TT 8 listed as built of pisé.[55] At Tell al-Sultan, on the other hand, Miss Kenyon found bricks in horizons well below that of the first portable pottery vessels.[56]

The Dark-faced Burnished Ware tradition of Phases A and B continues, with modifications, but the old Coarse Simple Ware and the Washed Impressed Ware are not evidenced on Tell Kurdu. At Yümük Tepe, where the transition is no doubt more clearly manifested, the Phase B or "Yildirim" type of painted ware and its apparent derivatives continue for several levels.[57] The painted derivatives(?) at Yümük Tepe often show motifs and profiles which are not immediately assignable to any known ceramic style east of the Euphrates. From this point onward, the complexions of the assemblages in the ʿAmuq and in Cilicia become more largel dissimilar than similar, though there are generally some useful points of comparison. On Kurdu and in the First Mixed Range on Judaidah our counts agree with Matson's and indicate that proper Halaf Painted Ware is statistically a minor strain, but it clearly had

[52] Garstang, *op. cit.* pp. 69 ff.

[53] See *Journal of World History* I 292. The change in the chipped stone industry appears to be reflected at Yümük Tepe, but W. C. Brice's quantitative treatment of the material (Garstang, *op. cit.* pp. 125–29) is restricted to the yield of the final season.

[54] But the small yield of the 1954 Iraq-Jarmo Project soundings at Gird Banahilk (see *Sumer* X 126–27) in the extreme northeastern highlands of Iraqi Kurdistan will be so treated by Patty Jo Watson in her report on the soundings. The Banahilk yield does not appear to belong to the tradition seen in ʿAmuq Phase C.

One thing at most is clear from the typological presentation of flint and obsidian tools in Oppenheim, *Tell Halaf* I. The materials selected for illustration indicate competence in blade production; such a selection would not be possible from the rather wretched flaking industry characteristic of the Hassunan (see *Journal of World History* I 304). From this point of view the Tell al-Halaf selection looks much more like the flint work of Syro-Cilicia than that of the upper Tigris basin. Furthermore, the single sickle blade picked up in the deeper trenches at Tell al-Halaf by the Peabody Museum survey in 1939 is long and broad, has steep retouch on the back and ends, and has obliquely trimmed ends—a Phases C–E sickle-blade type. Schaeffer's description of the Ras Shamra IV sickle-blade type (*Syria* XVI 163) also sounds like a Phases C–E type.

[55] *Iraq* II (1935) 16–21.

[56] *Digging up Jericho*, p. 55.

[57] Since a quantitative treatment of the pottery is lacking in Garstang's *Prehistoric Mersin*, the strength of persistence of the Dark-faced Burnished Ware tradition is not readily apparent. Our impression, from sherd collections, is that it remained fairly strong, developed various derivatives of its own, and did not really disappear until after level XII.

important influence on local pottery-painting (see pp. 143–46) and even on some of the profiles which were being produced in Dark-faced Burnished Ware.

The appearance of a new chipped stone industry must have some bearing on the degree of alteration—to its very core—of the culture pattern in Phase C as against Phases A and B. To this should be added the appearance in Phase C of the clay sling missile, which seems to replace the projectile point. Missiles are weakly manifested in Phase A in stone but not at all in Phase B in either clay or stone; clay missiles occur in Phases C–E, becoming common in Phase E as they are in northern Iraq in the Hassunan assemblage (and following?).

In attempting to equate materials from other sites with those of Phase C we are restricted by the quality of the reporting mainly to painted pottery, but we are hoist with our own petard because we incline to define the Halafian assemblage as strictly as possible, and the strictness of our own definition leaves little that we feel satisfied in calling Halafian.[58] This difficulty stems from the fact that we believe it meaningful to see a transitional Halaf-ʿUbaid range, at least in the painted pottery, as implied by the excavators of Tepe Gawra[59] and as seen by ourselves near the western limits of distribution of both the Halaf and ʿUbaid styles. In the ʿAmuq, Phase D appears to manifest this transitional range. Using the Phase D painted wares and some of the Tepe Gawra yield as points of reference, we sense that a considerable amount of pottery that is labeled "Halaf" from a number of sites is in fact of the transitional range, but we feel on firm ground only with the repertoire generally suggested by Schmidt's "Glanzmalerei" from Tell al-Halaf and by the Arpachiyyah yield from below TT 6. On the other hand, Schmidt's "zweifarbiger" painted motifs and fine-line delineations suggest the transitional range to us. This unsatisfactory situation will not right itself until an adequate exposure of the pertinent phases on some good site in the Khabur/north Tigris basin region results in a sophisticated quantitative presentation of all the categories of the pertinent assemblages.

To the east, then, there is little to add to Ann Perkins' treatment of Halafian occurrences[60] save Gird Banahilk (see p. 507, n. 54), but we would not class so much as Halafian. At Shaghir Bazar, for example, we would include only the levels below 10. However, a different culture pattern, whatever the details of its full assemblage may prove to be, did exist east of Syro-Cilicia and did affect the painted pottery style of Syro-Cilicia in the range of Phase C. We do not yet know whether the appearance of *libn* architecture and the new chipped stone industry are parts of this transmission. The tholos type of structure did evidently reach Yunus on the Euphrates but is not yet evidenced farther west in an immediately pertinent sense.

To the ʿAmuq sites and Yümük Tepe, possibly Gözlü Kule and certainly Coba Hüyük are to be added, and there are no doubt acceptable (by our definition) Halaf painted sherds in Ras Shamra IV.[61] We would class other sherds of Ras Shamra IV[62] in Phases D and E, however. It is important to note also that Dark-faced Burnished Ware still persisted at Ras Shamra as it did in the north. Woolley[63] refers to Halaf painted pottery in Tell al-Shaikh XI, but nothing has yet been published to give us confidence in this claim. It may be there, however.

Hamah L is said to have yielded a few sherds with glazelike paint,[64] but a dark-faced burnished complement is not mentioned. Since the only specifically known "type fossil" (i.e.,

[58] See *Journal of World History* I 302 ff.

[59] See e.g. Arthur J. Tobler, *Excavations at Tepe Gaura* II (Philadelphia, 1950) 131 ff.

[60] Ann Louise Perkins, *The Comparative Archeology of Early Mesopotamia* ("Studies in Ancient Oriental Civilization," No. 25 [Chicago, 1949]) chap. ii.

[61] Schaeffer, *Ugaritica* I, Fig. 5 *A–B*. See now p. 502, n. 23, above.

[62] *Ibid.* Fig. 4.

[63] *A Forgotten Kingdom*, p. 26.

[64] See *Journal of World History* I 297.

sherds of the Halaf painted style) has not yet manifested itself at Tabbat al-Hammam[65] and Jubail, we are frustrated in suggesting their possible relationship to Phase C. And we have no specific suggestions regarding possibly wider interrelationships with the northwest and west and farther to the south. This range badly needs further exposure and careful examination.

On the internal level there is little to say regarding general cultural interpretation. Houses may by now be somewhat larger. A shift in the hunting pattern is probably implied by the replacement of the projectile point by the clay sling missile.

On the other hand, signs of cultural change linked in some way with regions outside Syro-Cilicia are impressive. The change in the standard masonry unit has important implications if further exposures show it to be a thoroughgoing trait, so also the change in the chipped stone industry and the abandonment of the simple-ware ceramic tradition. The impact of Halaf painted pottery is archeologically spectacular, but it is just as important that the old Dark-faced Burnished Ware tradition did not disappear with the old flint industry.

An overfacile direction for speculation could proceed as follows: Suppose the male population of Phase B produced the architecture and the chipped stone tools, whereas the females made the common household pottery. If the impact of Phase C was accompanied by violence, of which there is no direct evidence, and a substantial reduction of the indigenous male population, one could conceive of resulting artifactual changes which roughly fit the available facts. To substantiate any speculation, however, much more excavation is needed.

PHASE D

Given the evident usefulness for comparative artifactual stratigraphy of even the minute yield from our restricted exposure of Phase D, we find it exasperating that more of the material is not available. And Yümük Tepe does not help to the degree that it does for the earlier phases. Its yield from about level XXIV upward seems to represent a cultural development increasingly different from that of the ʿAmuq, and the Gözlü Kule yield appears to substantiate this observation.

The differentiation does not imply that Halaf, Halaf-ʿUbaid (e.g. Phase D) transitional, and ʿUbaid influences on Cilician pottery-makers are not evident. Such influences did reach Cilicia, but we suspect that they may have been late in doing so and that they manifest themselves within a universe of local pottery profiles and painted decoration of quite different complexion from that of the ʿAmuq and eastward. The Halaf influence at Yümük Tepe may be apparent at first only in local imitations of some motifs, and it could be argued that such begin to appear at about level XXIV. By level XIX, at least, fine-line and bichrome painting are evident; some jar sherds[66] probably represent a Cilician counterpart for the ʿAmuq Phase D Transitional Monochrome Painted Ware, for they are certainly not Halafian in any strict sense; triangles pendent from the lip are evidenced,[67] and some sherds with bold cursive chevrons, pendent swags, and rosettes suggest the ʿUbaid style to me.[68] It is, of course, unfortunate that little attention was given the nonpainted pottery of Yümük Tepe, since important things appear to happen in this category in ʿAmuq Phase D.

There is no available architectural definition for ʿAmuq Phase D itself. Its ceramic includes a minor strain of the old Dark-faced Burnished Ware tradition with its unburnished and cooking-pot complements (i.e., Buff Simple Ware and Cooking-Pot Ware), Wiped-Burnish Ware, and Red-Wash Ware as well as new details in profiles, such as bow rims, pierced pedes-

[65] Two exasperatingly minute and badly eroded sherds bearing traces of shiny paint did turn up, but on re-examination we are inclined to ignore them (cf. *Syria* XXI 201 and Pl. XXIII 2:4, 6).

[66] Garstang, *Prehistoric Mersin*, Fig. 73:1–2.

[67] *Ibid.* e.g. Fig. 71:2.

[68] *Ibid.* Figs. 71:8, 73:33 and 41, respectively.

tal bases, and small triangular-sectioned jar handles. In painted wares, both proper Halaf and ᶜUbaid examples occur, but interest focuses on the probably local variations in painted decoration, the fussy fine-line draftsmanship, and the appearance of bichrome decoration. The other categories in the assemblage are not evidenced in great bulk but seem consistent with those of Phase C and, for that matter, with their counterparts in Phase E.

It is unfortunate that a full description of Tell al-Shaikh levels X and following is not yet available. In his inimitable popular style, Woolley says that the potter of the site evolved "a highly individual style" based on both the Halaf and the ᶜUbaid tradition of pot-painting.[69] While we suppose this statement is an oversimplification, what has been illustrated so far[70] does suggest some design elements not available in our own series. Other than the pottery, only seals are mentioned; some of these bear representational motifs, which appear first in Phase F in our exposures. We are inclined to think that much of Tell al-Shaikh and some of the yields from two other sites in the ᶜAmuq (Karaca Khirbat ᶜAli and Tabara al-Akrad) pertain to a late aspect of Phase E (see p. 512).

It is in Ras Shamra IV that we find the single other clear indication of Phase D pottery-painting in the Syro-Cilician region.[71] Triangles pendent from the lip appear to the east also, at Tell al-Halaf,[72] and the bow-rim jar seems to have some vogue there,[73] with either simple bands or over-all wash of "Glanzmalerei" (cf. our wiped burnish; pp. 160–61). In fact, if we knew more of the Phase D painted sytle, we could identify more at Halaf.[74]

Phase D manifests our first substantial ceramic linkage with Palestine. Our colleague G. Ernest Wright[75] has already presented the case for links (a complex involving red wash, bow rims, pierced pedestal bases, small triangular-sectioned jar handles, hole-mouth jars, etc.) between ᶜAmuq Phase D and Jericho VIII. More recently he suggested to us the probable pertinence of the Ghrubba material.[76] Mellaart is probably right, for the present at least, in believing that "one finds the closest parallel for the Ghrubba pottery, both in shapes and in decoration," in the "Early Chalcolithic" levels of Mersin,[77] although the painted style at Ghrubba seems somewhat debased. But the Ghrubba series also includes red wash, the hole-mouth form, and bow rims as well as the painted motif of triangles pendent from the lip. We tend to consider the Ghrubba material as part of the general equation but for the time being beg the question whether Ghrubba precedes or follows Jericho VIII. As Wright implies,[78] the painted element in the Ghassulian may well be a rather attenuated outlier of the ᶜUbaid painted style; if so, one might intercalate the Ghrubba material between Jericho VIII and the Ghassulian. In view of Miss Kenyon's difficulties with Garstang's Jericho VIII,[79] which certainly has an assemblage of some substance,[80] it would seem that a larger exposure at Ghrubba is needed.

This brings us again to the point that the North Syrian aspect of Phase D itself needs the substantiation of an adequate exposure. Such may be forthcoming at Ras Shamra. There would still be, however, the long middle distance between Ras Shamra and Palestine which remains archeologically undelineated for this general range. To our minds there is a considerable

[69] *A Forgotten Kingdom*, pp. 28–29.

[70] *Ibid.* Fig. 3; *AJA* LIV (1950) 65, Fig. 1.

[71] Schaeffer, *Ugaritica* I, Figs. 4 *J* and 6.

[72] Oppenheim, *Tell Halaf* I, Fig. 88.

[73] *Ibid.* p. 50 and Pl. XIV 1–5, 10.

[74] I suspect such pottery as that *ibid.* Pl. XCV is of Phase D type.

[75] "An important correlation between the Palestinian and Syrian Chalcolithic," *Bulletin of the American Schools for Oriental Research*, No. 122 (1951) pp. 52–55.

[76] See *Antiquity* XXXI 81, n. 3.

[77] James Mellaart, "The Neolithic site of Ghrubba," *Annual of the Department of Antiquities of Jordan* III (1956) 31. One assumes a typographical error in Mellaart's reference to "the Early Chalcolithic layers of Mersin (XXIV–XXX)"; he must mean levels XXIV–XX, and we suspect at least XIX could be added.

[78] *Bulletin of the American Schools of Oriental Research*, No. 122, p. 55.

[79] *Antiquity* XXXI 83.

[80] See *AAA* XXIV 39–46.

gap at Jubail between the "énéolithique A" and the "énéolithique B," as the excavator himself recognizes.[81]

Our comments on Phase D begin with a note of exasperation and must end with the double exasperation that very little in the way of general cultural interpretation can be added. The ceramic seems to suggest that the inhabitants of the ʿAmuq were in Phase D times in the process of readapting the new elements which reached them in Phase C times into a pattern of their own.[82] It would be interesting to observe the archeological traces of this process in far greater detail than is now possible.

PHASE E

If the culture pattern of Phase D is in fact at least partially the result of regional readaptation to the new elements of Phase C, some of which came from beyond the Euphrates, it may be that the readaptive orientation also predisposed the inhabitants toward accepting still more from the east. This is what seems to happen in any case, for Phase E has a ceramic tradition, at least, with an overwhelmingly ʿUbaid complexion.

Phase E is not known architecturally beyond traces of rectilinear *libn* structures and reed beddings. Both the Cilician sites, Yümük Tepe and Gözlü Kule, should aid us here. But, since we see traces of the ʿUbaid tradition in pottery-painting in Yümük Tepe XIX–XII, we are timid about specifying which of these levels should be directly equated with ʿAmuq Phase E. Woolley mentions "mud-brick houses" at Tell al-Shaikh[83] but has not yet described them; perhaps some of these will prove to pertain to Phase E.

We do not, of course, maintain that the ʿUbaid painted style of ʿAmuq Phase E is strictly that of either the north Tigris or the Khabur basin, let alone that of southern Iraq. We have our eyes rather on the slender ceramic evidence from such Euphrates drainage sites as the Yunus-Carchemish group, Tell Ahmar, and Tell Zaidan.[84] Tell Zaidan is particularly important because it also indicates traces of the otherwise unnoticed, outside the ʿAmuq and Coba Hüyük (see p. 507), Phases C–E chipped stone industry (see n. 84). The pottery of these Eurphates drainage sites, taken with the ʿAmuq group, may yet manifest a northwestern repertoire of ʿUbaid motifs somewhat variant from those of both northern and southern Iraq. The occurrences of the painted style along the littoral, from Cilicia at least as far south as Ras Shamra, and at Hamah may yet be best understood in terms of such a northwestern focus. And this focus need not have stopped at the present Turkish frontier, as surface sherds collected by Professor Landsberger and the stratigraphic pits at Arslan Tepe (Malatya) indicate.[85]

[81] Dunand in *Revue biblique* LVII 603.

[82] Woolley's conclusion (see p. 510 above) is in a somewhat different vein; being unable to assess his evidence as yet, we cannot cope with his analysis. Our present guess is that, since the Tell Kurdu sequence from Phase C well into Phase E is evidently not discontinuous, some of the Tell Al-Shaikh material may be of a late aspect of Phase E not seen on Kurdu.

[83] *A Forgotten Kingdom*, p. 25.

[84] See Woolley, "The prehistoric pottery of Carchemish," *Iraq* I (1934) 146–62; Thureau-Dangin and Dunand, *Til-Barsib*, Pls. XXXV–XXXVI; W. F. Albright, "Proto-Mesopotamian painted ware from the Balikh Valley," *Man* XXVI (1926) No. 25, Pl. C 1. For the chipped stone industry cf. our Fig. 161:10 with *Man* XXVI, No. 25, Pl. C 2 (Tell Zaidan).

[85] We saw Professor Landsberger's ʿUbaid-like sherds in Ankara in the winter of 1947/48, also sherds from Professor Schaeffer's pits at Arslan Tepe and a chart suggesting the general stratigraphy. My very sketchy notes on the Arslan Tepe material mention "ʿUbaid type painted sherds," "Reserved-Slip Ware (Phase G)," "some red-black sherds which recall Phase H," and proofs of Professor Schaeffer's Arslan Tepe report, which he has very considerately lent us (March, 1958), confirm my impressions in Ankara. In Schaeffer's "Sondage SS," ʿUbaid painted ware is present at 19.5 m. and persists to *ca.* 15.0 m.; profiles which strongly recall Phase F simple pottery range from *ca.* 15.0 to 10.0 m. and probably include beveled-rim bowls. A fluted sherd, evidently of Red-Black Burnished Ware type, appeared in the 7.5–7.0-m. layer, and a profile like that of our Red-Black Burnished Ware large jars (cf. our Fig. 284:2; often orange-buff in coloration) at 6.5–6.0 m. Excellent examples of Reserved-Slip Ware occurred at 7.0–6.5 m. in "Sondage E.W." to elaborate my impressions, and there was a clay sling missile at 15.0–14.5 m.

Both Karaca Khirbat ᶜAli (see pp. 201–4) and Tell al-Shaikh (see n. 82) suggest that the full range of Phases D–E pottery-painting is not clearly evident from the Tell Kurdu series, and Sinclair Hood's suggestions regarding the basal level of Tabara al-Akrad imply that it is part of the same picture (see p. 513). On pages 203–4 we suggest three possible explanations; Woolley appears inclined in the direction of our second explanation, while we ourselves tend toward the third.

Phase E shows us, at long last, the end in the ᶜAmuq of the old Dark-faced Burnished Ware tradition and its associated cooking-pots. Even to its end this series seems to keep some life of its own. Surface fluting is implied as part of it in Phase D (Fig. 122:1); in Phase E pedestal bases are again evidenced (Fig. 137:17–19; cf. Fig. 108:10, of Phase C); and one sherd (Fig. 137:20) in all probability pertains to the so-called Ghassulian "churn."[86]

The complex of flints, clay sling missiles, and fully ground celts also shows persistence of older traditions, as might other items if the exposures of Phases C and D had been larger. Thus it is not comprehensible to us that clay animal and mother-goddess figurines do not appear until Phase E; we suspect that both are earlier traits in the ᶜAmuq and that their first appearance in Phase E is merely accidental.

If the burnished fragment mentioned above is really of the "churn" type, Wright's implication (see p. 510) that the Ghassulian painted style be treated as a far-flung ᶜUbaid influence gains substance. We have long been inclined in this direction ourselves.[87] But again, as in Phase D, the middle ground between Ras Shamra and Hamah, with their ᶜUbaid-like sherds, and the Ghassulian sites of Palestine is as yet an archeological void.

We are only at the threshold of possibilities for general cultural interpretation. Strongly as the persistences suggest the survival of older traditions and the negative evidence suggests the lack of such standard Iraqi ᶜUbaid elements as the clay sickle and the chipped stone hoe, the bulk of ᶜUbaid-like painted pottery in Phase E is impressive. The ᶜAmuq now seems to be part of an intensified *oikoumenê* which stretches from at least southwestern Iran to high Mesopotamian Turkey and perhaps to the Dead Sea Valley. The cultural focus and point of greatest potential of this *oikoumenê* appears to be classic southern Mesopotamia, where proper towns with monumental temples are already appearing. The culture-historical implications of the events within this focus and its hinterland, where at least the habits for making and decorating pottery have become a commonalty, are somewhat breath-taking. Single radioactive-carbon dates for the base of the Warka pit (4015 B.C. ± 160)[88] and Tepe Gawra XVIII or XVII (3446 B.C. ± 325)[89] at least suggest the order of antiquity involved and that the spread of influences out from the focus did not happen overnight. It is our misfortune that so little of the whole culture-historical picture is as yet manifested archeologically.

THE PHASES E–F CONTACT ZONE

In none of our sites was the zone of contact between Phase E and Phase F manifested with stratigraphic clarity. From our explanation of the First Mixed Range it follows that the contact zone probably occurs within the core of Tell al-Judaidah, which our operations did not tap. Some sherds of the First Mixed Range are probably best understood in terms of the yields of the upper levels of Tell al-Shaikh[90] and the basal level (VII) of Tabara al-Akrad.

[86] Cf. Ruth B. K. Amiran, "The 'Cream Ware' of Gezer and the Beersheba Late Chalcolithic," *Israel Exploration Journal* V (1955) 244 and Pl. 24 *C* 1.

[87] See "A synoptic description of the earliest village-culture materials . . . ," *Human Origins . . . Selected Readings* II (2d ed.) 193.

[88] K. O. Münnich, "Heidelberg natural radiocarbon measurements," *Science* CXXVI (1957) 198.

[89] Willard F. Libby, *Radiocarbon Dating* (2d ed.; Chicago, 1955) pp. 82–83.

[90] Cf. e.g. our Fig. 91:1 with Woolley, *A Forgotten Kingdom*, Fig. 3:4; cf. also the combination of punctations and paint in Ras Shamra III (*Syria* XVI 161, Fig. 10 *G, J, K*).

Hood[91] considers these two yields equivalent; actually he illustrates little enough pottery from Tabara al-Akrad VII, evidently assuming that the Tell al-Shaikh report would soon be available, though it still is not. Thus we are left mainly with our hunch that the painted style of Tell al-Shaikh represents a late aspect of Phase E.

Tabara al-Akrad VII yielded the partial plan of a substantial *libn* house, evidently of the long-ridge type with interior circulation between at least two adjoining rooms. As in Phase E at Kurdu, the clay spoon and the clay sling missile are evidenced. A broken stamp seal of gable type bears the respresentation of a horned animal. The chipped stone industry is summarily treated and not illustrated, a lack which is most unfortunate, since our sites show a distinct change in Phase F. It seems that on Tabara al-Akrad the Cananean blade appears "from level V onwards."[92]

The Tabara al-Akrad range of levels VII–V thus sounds transitional to us. Hood suggests that in VI and V the pottery "seems to show affinities both with the Uruk and Jemdet Nasr wares" and with the "Early Bronze Age II pottery of Palestine,"[93] and there are evidently some ceramic elements in the range which belong in either Phase F or Phase G. But it is difficult to be specific.[94] Both subhemispherical and shallow carinated bowls seem common, apparently some gray and some burnished.[95] They may, then, correspond to Garstang's claim for "distinctive grey-burnished pottery bowls of the Uruk type" in Yümük Tepe XIV–XIII and the gray burnished ware noted by Miss Mellink at Gözlü Kule.[96] We would like to be more certain, for gray ware is not part of Phase F as revealed by our exposures (see p. 229). Sickle blades made on Cananean blade sections are part of our Phase F, and it seems that they do not appear at Tabara al-Akrad until level V. Tabara al-Akrad VII–V may include evidence of the Phases E–F contact zone, but we are not able to demonstrate the proposition.

PHASE F

As our exposures indicate it, the assemblage of Phase F shows a far more complete break in persisting traditions than any other described in this volume. It is possible, of course, that the "clean break" is somewhat more apparent than real, as the foregoing section suggests, and reflects accidents of deposition and excavation.

Phase F appears to have substantial *libn* buildings, sometimes with stone foundations. The preponderant ceramic is of fine-textured *serpentine* clay, a good portion vegetable-tempered and quickly but incompletely fired, with a resultant dark velvety core. The wheel was used to some extent, and its possibilities for detailed profiling of lips and rims apparently fascinated the potters. Ingenious surface treatments, such as the reserve spiral and the double slip, also were tried, but the great bulk of the pottery is plain-surfaced. Beveled-rim bowls are first evidenced now.

Metal tools now appear, also sickle blades made on Cananean blade sections. The gable seal, with representational motif, is first evidenced, also the beginning of a flourish in stone pendants. Our kaolin(?) beads would probably be considered fayence by J. F. S. Stone and L. C. Thomas.[97]

There can be little question but that the pottery at least is a western outlier of the ceramic

[91] Sinclair Hood, "Excavations at Tabara El Akrad, 1948–49," *Anatolian Studies* I (1951) 115.

[92] *Ibid.* p. 144. [93] *Ibid.* p. 132.

[94] The reporting is not very systematic, and we are not clear as to just what details go with which level. This criticism is no reflection on Sinclair Hood, whose general competence and work in the Aegean we admire, but it is rather clear that he did not understand the details and nuances of meanings of the different series he encountered on Tabara al-Akrad.

[95] Hood, *op. cit.* p. 130.

[96] See Garstang, *Prehistoric Mersin*, p. 173, and Goldman, *Excavations at Gözlü Kule* II 79–81.

[97] Cf. "The use and distribution of faience in the ancient East and prehistoric Europe," *Proceedings of the Prehistoric Society* XXII (1956) 37–84.

of Miss Perkins' Gawra period of northern Iraq,[98] save that gray burnished ware was not apparent in our exposures. West of the Tigris, elements of the ceramic complex may be seen in Tell al-Halaf, Carchemish, and the Jabbul Plain,[99] and also at Arslan Tepe (see n. 85). Only the gray ware is indicated in the Yümük Tepe report (see above), but Miss Mellink's presentation of the pottery of the "Late Chalcolithic phase" (30.00–27.00 m.) at Gözlü Kule includes much the same complex as ʿAmuq Phase F, with gray ware added.[100] She suggests [101] a relationship between the painted variety of Jenny's "Häckselkeramik" of Samıramaltı[102] and her chaff-faced painted ware. We saw Jenny's collection in the Museum für Völkerkunde, Berlin, in 1934 and were impressed by the general similarity to Phase F pottery in the feel of the fabric, but the more specific traits in profiles were not available.

South of the ʿAmuq, there is published evidence for the Phase F type of ceramic from Qalʿat al-Ruʾus and Hamah, also the probability of traces from Ras Shamra.[103] Levels 19–17 (with traces in 16) in a little side cut at Qalʿat al-Ruʾus yielded standard Smooth-faced and Chaff-faced Simple Wares with their characteristic profiles, bowls with reserved spiral decoration, and red-slipped, slipped and burnished, and double-slipped wares.[104] At Hamah the evidence is not so concise, for Ingholt's level K clearly has ceramic elements which could be of Phases F, G, and H. Since beveled-rim bowls also occur in early phase G in the ʿAmuq, a case for a clear Phase F occurrence at Hamah must be based on the large reddish jars used for infant burials and on low carinated bowls.[105]

It is still difficult to see other traces of the Phase F assemblage in the surrounding sites. Jar burials seem the order at Gözlü Kule, but Cananean blades are not listed until "Early Bronze I," nor is metal available until then.[106] Only pottery apparently was saved at Qalʿat al-Ruʾus, but it does assure us that at least part of the Phase F type of culture pattern was manifested on the coast south of Ras Shamra.

[98] See *Comparative Archeology of Early Mesopotamia*, chap. v.

[99] See Oppenheim, *Tell Halaf* I 94 ff. ("unbemalte Keramik"); Sir Leonard Woolley and R. D. Barnett, *Carchemish* III (London, 1952) 217–18; R. Maxwell Hyslop *et al.* in *Palestine Exploration Quarterly, 1942 & 1943*, pp. 24–26.

[100] Goldman, *Excavations at Gözlü Kule* II 82–86. [101] *Ibid.* p. 87.

[102] Wilhem A. Jenny, "Schamiramalti," *Praehistorische Zeitschrift* XIX (1928) 284–85.

[103] My 1935 notes on the small selection of early Ras Shamra wares in the Musée de St. Germain indicate that I was convinced of the presence of the smooth- and chaff-faced fabrics and perhaps "even the lacquer (i.e., double-slipped) ware, but in a poorer technique." I also note that I did not see beveled-rim bowl fragments, but neither are these yet apparent in the other coastal occurrences, at Gözlü Kule and Qalʿat al-Ruʾus. See now p. 502, n. 23.

[104] See Ann M. H. Ehrich, *Early Pottery of the Jebeleh Region* ("Memoirs of the American Philosophical Society" XIII [Philadelphia, 1939]).

[105] Ingholt, *Rapport préliminaire sur sept campagnes de fouilles à Hama*, pp. 17–18 and Pl. IV 1.

[106] We are at a loss concerning the apparently very early appearance of metal in Yümük Tepe. The roll-headed pins of level XVI (Garstang, *Prehistoric Mersin*, Fig. 85) are of a type which appears elsewhere generally at approximately the ʿAmuq Phase G horizon; but we are inclined, on the basis of the general ceramic picture, to consider Yümük Tepe XVI about contemporary with ʿAmuq Phase E because the so-called "Uruk gray ware" appears in levels XIV–XIII. But the roll-headed pins are not the earliest metal on the site; Garstang mentions two copper pins "found in close association" (*ibid.* p. 76), one listed for level XXI (*ibid.* p. 84) and one for level XXII (*ibid.* p. 83), also a copper chisel and a copper stamp seal for level XVII (*ibid.* p. 108). There are three possible explanations:

1. Metallurgy may have had a very early beginning in Cilicia, though Gözlü Kule does not seem to substantiate this theory.

2. Garstang's exposures in the levels under consideration were relatively large; the lack of metal in this range on other sites may be an accident of minute exposures.

3. The eastern ceramic "type fossils" (which one tends to assume as evidence of chronological contemporaneity) may have reached Cilicia late or may have persisted very late there. How else is one to understand the persistence of ʿUbaid elements into Yümük Tepe XII (cf. *ibid.* Fig. 107)?

There is not much help from other items in the Yümük Tepe assemblages. Clay sling missiles appear to have been common in the large building in level XVI; these evidently disappear with the end of Phase E in the ʿAmuq, our Phase J specimen (Fig. 350:2) being considered extrusive. Brice shows what appear to be Cananean blades at Yümük Tepe (Garstang, *op. cit.* Fig. 77:1), but for level XII; as at Gözlü Kule, this trait of Phase F (and following) does not seem to appear in Cilicia until after the Phase F type of pottery is replaced.

We must now face the situation at Jubail, which is certainly not most clearly understood in terms of the northern materials. The Jubail linkages in ceramics for the materials immediately following Dunand's "énéolithique B" are almost universally conceded to be most strong with Palestine, from the very end of its "Early Bronze I" and its "Early Bronze II." Certain ʿAmuq Phase G ceramic elements also belong to this linkage. This range at Jubail (Dunand's "installation de transition" and "première installation urbaine"[107]) overlies the "énéolithique B," which in turn overlies the basal "énéolithique A" after some unconformity (see pp. 510 f.). If Byblos A is, as we believe, in the range of ʿAmuq Phase A or B and the "transitional" and "first urban" installations link with both ʿAmuq Phase G and Palestinian "Early Bronze," where does Byblos B belong? Its pottery does not really equate with anything in the ʿAmuq, nor with anything at Hamah or Qalʿat al-Ruʾus for that matter, but we also doubt that the Byblos B assemblage can be as early as Phase E. We tend to consider it contemporary with Phase F in more northerly Syria on the basis of a few general resemblances in the pottery of the two foci, their apparent predisposition to pot burials, and a few rather detailed resemblances such as rivet-tanged copper daggers[108] and short cylindrical beads of "pâte" (our kaolin[?] or fayence presumably).[109] This generalization is admittedly unsatisfactory, but a few other items lurk in limbo and may yet prove useful; for example, Cananean blades occur at Byblos but are not noted from the "énéolithique B" graves. It is some consolation that Wright in his most recent reworking of the Palestinian sequence positions Byblos B essentially as we suggest.[110]

In terms of the broader horizon of general cultural interpretation, it is unfortunate that we still know so little of the details of the change which attended the replacement of the various ʿUbaid painted pottery manifestations by the ceramic tradition called Uruk or Warkan and Gawran and its extensions. Much water has gone over the dam since the Frankfort-Speiser controversy over "Mesopotamian origins" broke out, but we must still restrict our guesses about possible ethnic and linguistic changes largely to what we know of the change from one ceramic tradition to another. We ourselves feel uncomfortable about this limitation; the true potential of archeology is not so restricting.

Several years ago we ourselves broached the idea that the ʿUbaid assemblage had classic southern Mesopotamia itself as its focus of differentiation as a result of early farmers from the Samarra and Halaf regions fingering down the mud flats of the rivers.[111] Eridu would, we thought, give a momentary glimpse of the resulting fusion and the basis upon which the ʿUbaid assemblage was to differentiate. Our thinking still tends in this direction.

As to the regional focus of Uruk-Warkan and Gawran differentiation, we have as yet no guess. The distribution of its ceramic—or at least of conceivable extensions of it—seems to be almost as broad as that of the ʿUbaid painted style.[112] What other artifacts are characteristic and universally part of the Uruk-Gawran assemblage? Was the use of Cananean blade sections for sickles restricted to the western aspects of the assemblage? In our experience, Gawran type pottery is richly distributed in the hill country of Iraqi Kurdistan, but we have not noted Cananean blades on the surface at such sites. If not the Cananean blade, what then—or was the whole spread restricted to certain habits for the production of clay vessels?

[107] See *Revue biblique* LVII 583, 592, and 595.

[108] Dunand, *Fouilles de Byblos* I ("Etudes et documents d'archéologie" I [Paris, 1939]) Fig. 300.

[109] *Ibid.* Pl. CXXXVIII 5643 and 5856 (see pp. 381 and 391).

[110] In a detailed chart prepared in the spring of 1957 for the forthcoming Albright *Festschrift.*

[111] See R. J. Braidwood, *The Near East and the Foundations for Civilization*, p. 36, n. *.

[112] It may, in fact, be just as broad, but, since this ceramic is not characterized by painted decoration, it is reasonable to suspect that its occurrences have not been so carefully noted.

The ᶜUbaid temple structures at Eridu and Tepe Gawra at least remind us that some early traditions lasted on into Protoliterate and later times in the classic area. The Warkan, at least, cannot have been an affair of complete and overpowering change in all realms of culture.

These vistas are grand but very misty. It would seem archeologically worth while to work toward dispelling the mist.

PHASE G

Despite the relatively small exposures of Phase G,[113] it proved to be a gold mine for trait-chasing. The twisted torques on the bronze figurines and the knot-headed pin would easily get us into central Europe, but we will leave fun of this sort to our readers. It is enough to suggest briefly the comparative artifactual fabric which now extends to both classic Mesopotamia and Egypt.

Essentially the links with southern Mesopotamia are in the later Protoliterate and Early Dynastic I range and are shown by such items as Reserved-Slip Ware (including jars with cylindrical drooping spouts), horizontally pierced lug handles, impressed decoration on pottery, pearoid maceheads (one with a fluted appearance), certain cylinder seals and certain motifs on stamp seals, pendants such as the "eyed figure" and the "lotus-pod" type, and "studs." Beveled-rim bowls, presumably restricted to the end of Phase F and the beginning of Phase G in the ᶜAmuq (see p. 234, n. 10), appear to go out of fashion in Mesopotomia at the end of Protoliterate *b*, when the elements listed above come into fashion. The specific linkages with Egypt cluster toward the end of Phase G and persist into Phase H; they consist of "Syrian bottles," both plain-surfaced and with dot-filled pendent triangles, simple pattern burnish, and a sherd with broad comb-impression and rather tight loop handle (Fig. 233:12[114]). There are other linkages with both Egypt and Mesopotamia[115] such as the cylinder seals, impressed decoration, horizontally pierced lugs, and cylindrical spouts; these elements have Gerzean context in Egypt. The general use of the multiple brush and of roll- and knot-headed pins began in Egypt at about this time.

We realize that many of these linkages are not specific down to the very last detail. The Reserved-Slip Ware in the ᶜAmuq was made of ᶜAmuq clay, the cylinder seals and pendants no doubt were not carved in southern Mesopotamia itself, and so on. For example, the yield of fine small objects from the Brak Eye Temple complex is no doubt much closer to comparable objects of southern Mesopotamia in specific detail than is the ᶜAmuq yield, just as the Brak platform itself was built of "Riemchen" bricks, which do not seem to have reached the ᶜAmuq. Or, again, the Phase G linkages with Palestine—mainly ceramic and including drooping cylindrical spouts, broad platters with inrolled rims, simple pattern burnish, and "Syrian bottles"—were not "imports" in either Palestine or the ᶜAmuq, each having been made in the normal fabrics of both regions. The range of linkage had some span as well: from at least Wright's "Early Bronze I B" through his "Early Bronze II" and in the ᶜAmuq from Phase G through Phase H.

The value of the ᶜAmuq Phase G yield impresses us as being greater for its general cultural implications than for direct chronological specificity. The Phase G assemblage was apparently

[113] Woolley (*Alalakh* [Oxford, 1955] p. 381, n. 1) is under an unfortunate illusion; the Phase G exposure was happily not restricted to a "stepped trench," nor can it possibly be said that the "Khirbet Kerak invasion . . . synchronizes with the early part of the Uruk period" (see *ibid.* p. 382).

[114] Cf. W. M. Flinders Petrie, *Abydos* I (Egypt Exploration Fund, "Memoir" XXII [London, 1902]) Pl. VIII 6.

[115] Cf. Henri Frankfort, "The Origin of monumental architecture in Egypt," *AJSL* LVIII (1941) 329–58, and *The Birth of Civilization in the Near East* (Bloomington, Indiana, 1951); Helene J. Kantor, "The chronology of Egypt and its correlation with that of other parts of the Near East in the periods before the Late Bronze Age," in R. W. Ehrich (ed.), *Relative Chronologies in Old World Archeology*, pp. 1–27.

very rich all across the board. We exposed only about 167 sq. m. in total, but fortunately there was some depth of deposit. It is curious that there is so little evidence of richness outside the ʿAmuq for the rest of Syria. The Eye Temple complex at Brak, well east of the Euphrates, and the "transitional" and "first urban" installations at Jubail, well to the south, must be, in general, essentially contemporary with ʿAmuq Phase G. But, understandably, Brak has much closer linkages with southern Mesopotamia and Jubail with Palestine and Egypt. There is no really well evidenced occurrence of the general type closer to the ʿAmuq than Brak and Jubail.

We have a few modest hints, however, both positive and negative, as to what may have been going on in Syria at about this time. There are hints of Phase G type ceramic elements in Hamah K, but from the preliminary report it is not clear whether these occurred before or after the Phase H types of elements appeared. Levels 16–14 in the little side cut at Qalʿat al-Ruʾus undoubtedly yielded some elements of Phase G type pottery, which suggest that such material will eventually be identified at Ras Shamra. Parrot sees the Ishtar temple at Tell al-Hariri (Mari) as belonging to the end of the "Jamdat Nasr" or, in any case, the beginning of the Early Dynastic period,[116] but we know little of it. Woolley describes what is evidently Reserved-Slip Ware of Phases G–H type at Carchemish.[117] The occurrence of reserved-slip surfacing at Arslan Tepe is noted above (p. 511, n. 85). We wish that we knew the content of the great depth of "murs divers" at Tell Ahmar[118] and something of Tell Basher, the evident source of many of Hogarth's North Syrian cylinder seals (see p. 488, n. 15). In fact, if we were forced to guess the whereabouts of the focus of greatest intensity for the Phase G type assemblage, we would probably choose the upper Euphrates drainage.

Moreover, we see no demonstrable reason for believing that this culture, wherever the exact location of its focus of greatest intensity, was entirely a receiver. We know of no a priori reason at the moment why the reserved-slip surfacing technique, for example, had to move northward from southern Mesopotamia. It might, alternatively, have been at home in the north and then moved southward. The cultural interchange at which the ʿAmuq Phase G materials hint may have been a two-way affair and, since Palestine and Egypt come into the picture as well, perhaps a many-sided affair.

In fact, the implications of the rich yield of our modest exposures of Phase G are truly fascinating. The curtain seems to be lifted just enough to give us a peek at an incipient internationalism some fifteen hundred years before Breasted's "first great internationalism" of the latter half of the second millennium B.C. The *oikoumêne*'s which Phases E and F appear to represent must be of a different nature; in its "internationalism" Phase G seems part of something quite new.

We cannot say much of the society which produced this rich assemblage. On the analogy of Brak, its installations may have been of considerable size and of some degree of monumentality. Certainly, our chance find of the cache of six bronze figurines in late Phase G or early Phase H context (see p. 296) can hardly suggest simple household images; a proper edifice for the gods is no doubt implied. The degree of craftsmanship implied by this and other metal-work, by the seal-cutting, and by the "factory-made" uniformity of much of the pottery suggests a fair degree of specialization of labor. In his presidential address to Section H of the British Association for the Advancement of Science in 1938, Childe reasoned that by about 3000 B.C. we should see in Egypt and Mesopotamia "true cities . . . relieved from immediate dependence on environmental accidents by public works and organised commerce,

[116] André Parrot, "Les fouilles de Mari: quatrième campagne (hiver 1936–37)," *Syria* XIX (1938) 2–8.

[117] *Carchemish* III 228–29 and Pl. 58 *c*.

[118] See Thureau-Dangin and Dunand, *Til-Barsib*, Diagramme de superposition des couches (in plate vol.).

comprising a variety of artisans and officials including scribes," and in Syria "smaller cities less richly equipped and only partially literate."[119] It is true we have not yet found evidence of literacy (save at Jubail?), but we suspect that Childe used the word "cities," even though small ones, advisedly in this case.

PHASE H

Hood and Woolley, in their interpretations of the occurrence of Red-Black Burnished Ware of Phases H–I type on Tabara al-Akrad, speak of "the Khirbet Kerak Culture," "the Khirbet Kerak people," and "a great folk migration, an outpouring of barbarians from the North."[120] We certainly do not read the evidence in such an extreme fashion. Even in the pottery, which is about all that Hood and Woolley have to treat, there are traces of Phases G–H type simple wares,[121] and it is clear that ceramic traditions of Phase G remained strong in our exposures of Phase H. Sickle blades made on Cananean blade sections also assure this persistence, as do many of the putatively borrowed elements seen in both Phase G and Phase H—the pearoid maceheads, the pendants, and the cylinder seals. A peculiar bone container(?) with incised decoration (Pl. 76:1) appeared in Phase G, and a second one occurred in Phase H (Fig. 300). These persistences hardly fit the notion of "armed invaders who massacred the old inhabitants."[122]

There are certainly new elements in the Phase H assemblage—Red-Black Burnished (or "Khirbat Karak") Ware, Brittle Orange Ware, and secondary architectural features such as benches, hearths, bins, etc.[123] Somehow even these three do not add up together. Brittle Orange Ware appeared to the north of the ʿAmuq at Zincirli;[124] it is more precisely fixed in the "Early Bronze Age II" of Gözlü Kule,[125] but in context with Phase I type truncated conical cups.[126] In the ʿAmuq the Brittle Orange Ware count is proportionately low, and Matson (p. 369) finds the clay itself unique. The vessels may, in fact, have been brought into the ʿAmuq as finished products. The secondary architectural features appear to be at home in Gözlü Kule at least by "Early Bronze I."[127] But from neither Zincirli nor Gözlü Kule (nor from Yümük Tepe, for that matter) do we have a bona fide occurrence of Red-Black Burnished Ware of Phases H–I type.

As Hood implies,[128] the Red-Black Burnished Ware (we should definitely not say "the Khirbet Kerak Culture") is no doubt related to the "Chalcolithic" and "Copper Age" pottery of Anatolia. Hood follows Woolley in favoring a home for his "barbarians" in the southern Caucasus, specifically in the Kur-Araxes basin; some of Kuftin's pottery from that area has similarities to the Red-Black Burnished Ware but shows its own rather flamboyant specializations in surface treatment; most interesting, however, is the fact that "andirons" (cf.

[119] See "The Orient and Europe," *AJA* XLIII (1939) 25.

[120] See Hood in *Anatolian Studies* I 116–19 and Woolley, *A Forgotten Kingdom*, pp. 31–37.

[121] See Hood, *op. cit.* p. 140.

[122] See Woolley, *A Forgotten Kingdom*, p. 32.

[123] Purposely omitted are a cache of metals (pp. 373, 376) and other easily "importable" items. There are no doubt interesting possibilities for trait-chasing here; cf. e.g. our peculiar domed-headed pins (Fig. 292:13) with a gold example from the tomb of Zer (Petrie, *The Royal Tombs of the Earliest Dynasties* [Egypt Exploration Fund, "Memoir" XXXI (London, 1901)] II Supplement, Pl. V*A* 7). However, Cornelius Hillen's reservations concerning the use of metal objects for dating make us uncomfortable in the matter (see his "The Early Development of Metal-Working in the Near East" [unpublished Ph.D. dissertation, University of Chicago, 1955] pp. 218–19).

[124] Felix von Luschan†, *Die Kleinfunde von Sendschirli* ("Ausgrabungen in Sendschirli" V [Berlin, 1943]) Pls. 15–16.

[125] Goldman, *Excavations at Gözlü Kule* II 113 ff., Nos. 233 and 278.

[126] *Ibid.* Nos. 178 ff.

[127] *Ibid.* pp. 10–11 and Plan 3.

[128] *Anatolian Studies* I 116.

Figs. 290–91) are part of the general ceramic complex.[129] Within the generalized Anatolian dark-faced, textured, and burnished tradition, a few unpublished sherds in the Oriental Institute which were collected by the late A. T. Olmstead near Kharput, northwest of Diyarbekir, have quite specific similarities to the Red-Black Burnished Ware. An aspect of the red-black pottery occurs at Arslan Tepe also (see p. 511, n. 85).

We tend to feel that the Red-Black Burnished Ware is the result of some one regional ceramic variant in a general Anatolian development of the old Syro-Cilician Dark-faced Burnished Ware. The beginning of what we call Phase H is marked by the "rebound" of this regional ceramic variant into Syria[130] and eventually into Palestine, where it became known to archeologists as "Khirbat Karak" ware. The route of the "rebound" is curiously unclear; certainly it was not by way of Cilicia or even Zincirli, nor has the pottery yet been seen on or east of the Euphrates in Syria. Can this way of making and decorating pottery possibly have been sea-borne to the mouth of the Orontes from somewhere in southwestern Anatolia, and, if so, was it in some way related to the rise of the Red Polished Ware in Cyprus?[131] Whatever the case, the Red-Black Burnished Ware, spectacular as it is, is only one element in the assemblages of Phases H and I.

South of the ʿAmuq, there is Red-Black Burnished Ware at Hamah and Ras Shamra and in traces at both Qalʿat al-Ruʾus and Tell Sukas. Strictly speaking, we cannot be sure whether these occurrences should be considered contemporary with Phase H or Phase I. We tend to believe that southward movement of this ceramic tradition was an affair of some duration, since it does not seem to have reached Palestine until "Early Bronze III."[132]

Since many of the Phase G linkages with Mesopotamia and Egypt (see p. 516) persist well into Phase H, the two phases must be considered together in an assessment of their probable chronological positions. The late Henri Frankfort's final opinion on our two Phase H cylinder seals was that one (Fig. 297:5) is of Jamdat Nasr type and the other (Fig. 297:6) is "perhaps" of Jamdat Nasr type, but the occurrence of peripheral cylinder seal impressions on Hamah J goblets[133] disturbed him.[134] We are inclined to suppose that Phase H roughly parallels the range from late Early Dynastic I into the first part of Early Dynastic III in Mesopotamia. This range fits with our general positioning of Phases G and I, and we see no grounds for greater precision.

There is not much to add in regard to general cultural interpretation. The assumption of the new elements by the producers of the old Phase G assemblage clearly does not mean massacre by invaders. In fact, it need mean only that the Phase G people, with their "incipient internationalism," were being receptive to still more ideas from outside their little valley. One of these ideas concerned ways to produce a very spectacular pottery. Probably a modest number of people actually brought the know-how into the valley with them; Matson (p. 361) remarks on "departure from the use of traditional clays and manufacturing techniques," but the clay sources for the Red-Black Burnished Ware were local. New ideas in house-building and for another kind of pottery arrived at about the same time but evidently not as part of the event that brought the spectacular Red-Black Burnished Ware.

[129] See B. A. Kuftin, "The Urartian 'Columbarium' at the foot of Ararat and the eneolithic stage of the Kur-Araks basin" *Vestnik Gos. Muzeia Gruzii* XIII-B (Tiflis, 1944) pp. 1–127 (English summary on pp. 137–44).

[130] See *Proceedings of the Prehistoric Society* XXI (new series) esp. p. 76.

[131] Einar Gjerstad (*Studies on Prehistoric Cyprus* [Uppsala, 1926] pp. 19 ff.) describes an "Early Cypriote III" house with such accessories as benches, built hearths and ovens, and grain bins.

[132] Albright, *The Archaeology of Palestine* ("Pelican Books" A199 [Harmondsworth etc., 1956]) pp. 76–77.

[133] See Ingholt, *Rapport préliminaire sur sept campagnes de fouilles à Hama*, pp. 42–43 and Pls. XIV–XV 2.

[134] The Megiddo and Byblos sealings would then come into the picture as well. It is our recollection that in our last conversation with Frankfort on this whole matter he was no longer so sanguine as to the chronological precision which the peripheral seals and sealings might give.

PHASE I

Phase I, as our exposures show it, appears to be the result of a cultural amalgam, manifested by a fusion of the three new elements of Phase H (the elaborate secondary architectural features, the Red-Black Burnished Ware, and the minor strain of Brittle Orange Ware) with a new aspect of the Phase G Simple Ware which probably had a normal uninterrupted development in the Euphrates basin. As Phase I begins, the Simple Ware—with the new aspect of this development—spills back into the ʿAmuq from the basin area. There is even, in fact, a suggestion that a minor part of the development is seen in the ʿAmuq itself, in the transition from reserved-slip surface treatment to corrugation (see p. 413). Certainly—on the basis of present negative evidence—the Simple Ware development in the Euphrates basin was not disturbed by intrusion of the Red-Black Burnished Ware tradition. The Phase I Simple Ware also has its painted complement. This complement is probably related in some way, after its Phase J manifestation, to Mallowan's "Khabur ware,"[135] but the details of this later relationship are not clear from the ʿAmuq evidence.

There are persistences in the Phase I assemblage, for example Cananean blade sections, as well as easily "importable" items, such as the double-spiral pin, the cylinder seal, and fayence beads, and two new elements not demonstrably connected with the Simple Ware development. We suspect that the new Smeared-Wash Ware was a local competitor for the Brittle Orange Ware (see p. 416, n. 7). The second new element is the apparent beginning in the ʿAmuq of the tradition of pinch-faced or monstrous-headed figurines (Fig. 323:3), which persisted after Phase J.

It is not, of course, clear whether the pinch-faced figurines and the Smeared-Wash Ware are first at home in the ʿAmuq. The figurines come presently to have a fairly wide distribution in Syria. The distribution of the Smeared-Wash Ware is not well known; it is certainly present in the "Sargonid" levels at Brak,[136] though evidently in no great bulk, and Miss Mellink notes three sherds in the "Early Bronze Age III" at Gözlü Kule.[137] Both these contexts probably parallel Phase J rather than Phase I (see below).

The Phases I–J Simple Ware, with its characteristic profiles (in Phase I, especially the truncated conical cups [Fig. 313:2–4, 24–27] and the simpler goblets [Fig. 313:6–12], both with corrugated surfaces), its emphasis on vessels for containing liquids or for drinking, and its highly standardized "factory-made" aspect, begins to delineate a geographical Syria once more. On the basis of their ceramics (since we have little more to go on) we see Phases E and F as parts of widespread *oikoumêne*'s and Phase G as a period of dawning "internationalism," which may be somewhat less intense by Phase H times. Now, to the degree that ceramics alone can ever indicate cultural commonalty, there are more restricted boundaries. From Cilicia (e.g. Gözlü Kule's "Early Bronze Age III") to the Euphrates (Til Barsib hypogeum and some graves excavated by Woolley in the Carchemish environs), south into Coele Syria (earlier Hamah J and some sites excavated by Robert du Mesnil du Buisson), and back to the coast again at Qalʿat al-Ruʾus, Tell Sukas, and as far south as Tell Simiriyan and Tabbat al-Hammam we see the same general ceramic tradition. Not all of its profiles occur over the whole area; "champagne cups," for example, seem restricted to the Euphrates. It is not clear whether the tradition existed south of the present Syrian-Lebanese boundary, along the stretch from Tripoli to Tell Kelek, and no traces of it appeared in H. H. von der Osten's pit at Tell al-Salihiyyah near Damascus.[138] Jubail is better understood ceramically

[135] See "Excavations at Brak and Chagar Bazar" (*Iraq* IX [1947]).

[136] *Ibid.* Pl. XLIII 1–4 and p. 191.

[137] Goldman, *Excavations at Gözlü Kule* II 163, No. 743.

[138] Actually, his deepest exposure only reached second-millennium material; see his *Svenska Syrienexpeditionen 1952–1953*. I. *Die Grabung von Tell eṣ-Ṣaliḥiyeh* ("Skrifter Utgivna av Svenska Institutet i Athen" 4° IV [Lund, 1956]).

by reference to Palestine, and the Khabur area by reference to the Mosul region. Even Cilicia, in fact, still retains many of its older ceramic traditions, though truncated conical cups, other corrugated vessels, and horizontal reserved slip are well evidenced there. The trapezoidal area from the Gulf of Alexandretta to Carchemish on the Euphrates to Homs to Tripoli probably delineates the region roughly, and our hunch is for an extension up the Euphrates basin north of Carchemish to a focal point.

Commonalty in other artifacts, for example metals, has a far greater area of distribution. But for this broader linkage it is best to consider the yield of Phase I together with that of Phase J (see below).

As to possibly direct evidence for the dating of Phase I, Frankfort's last word on our single cylinder seal (Fig. 327) was that it is peripheral Early Dynastic III. As for the sealings on the Hamah J goblets (type G II), Frankfort would commit himself on only a single example,[139] which he considered Early Dynastic II or more probably III and probably peripheral. Now it can be maintained (and has been[140]) that the Til Barsib metals are paralleled in graves of the royal cemetery of Ur, generally conceded to be Early Dynastic III. To the degree that metals can give chronological precision, this parallelism is of some aid. Our general tendency is to consider Phase I contemporary with the latter portion of Early Dynastic III and the so-called "Protoimperial" period of southern Mesopotamia.

Both the general relative chronology and the general cultural interpretation can best be further treated after Phase J is brought into the discussion.

PHASE J

Our Phase J exposures revealed *libn* benches but none of the more elaborate secondary architectural features encountered in the two preceding phases. Only a handful of Brittle Orange Ware sherds occurred, and the only signs of the spectacular Red-Black Burnished Ware were found in the cooking-pot group. The new aspect of the Simple Ware, which began in Phase I, its painted complement, and Smeared-Wash Ware are the major ceramic manifestations of Phase J. The disappearance of goblets, cylindrical spouts, "white-on-black" designs effected by incising through paint, and Smeared-Wash Ware is taken to mark the end of Phase J.

The spread of this standardized "factory-made" ceramic complex over Syria north of Lebanon and west of the Jazirah began in Phase I times (see above). A few of its elements reached the Khabur region (see p. 522), and goblets and "teapots" with white-on-black decoration reached Palestine.[141] At least two incoming or rare ceramic elements of Phase J need notice as well—the Troy IV type cup (Fig. 349) and the gray horizontally burnished bottles (Fig. 348) which seem at home beyond the Euphrates.[142]

If we shift our attention to the metals and lump those of Phases I and J, the horizon becomes much broader. On the basis of direct association with the Phases I–J ceramic complex within the Syrian region proper, an impressive catalogue of metal types could be built up. One

[139] Ingholt, *Rapport prèliminaire sur sept campagnes de fouilles à Hama*, Pl. XIV 1.

[140] See Mallowan, "The Syrian city of Til-Barsib," *Antiquity* XI (1937) 337.

[141] See Robert M. Engberg and Geoffrey M. Shipton, *Notes on the Chalcolithic and Early Bronze Age Pottery of Megiddo* ("Studies in Ancient Oriental Civilization," No. 10 [Chicago, 1934]) Fig. 19. In the ʿAmuq, true white-on-black decoration is rare (see p. 417 above). At Hamah, it occurs on goblets of Ingholt's G II group but apparently flourished after the Red-Black Burnished Ware had disappeared. I assume the Megiddo examples to be about synchronous with Phase J, at the earliest.

[142] At Amarnah (cf. Woolley, "Hittite burial customs," *AAA* VI [1914] 91–92 and Pl. XXIII, esp. No. 12), Tell Ahmar (cf. Thureau-Dangin and Dunand, *Til-Barsib*, p. 105), and in the "Sargonid" and "Third Ur Dynasty" levels at Brak (cf. *Iraq* IX, Pl. LXXI), but also at Gözlü Kule (cf. Goldman, *op. cit.* p. 154, No. 617). Mallowan (*Iraq* IX 230–31) suspects that such pottery may be linked with the gray ware found at Shah Tepe and other sites in northern Iran; I expect that he may be right and that the evidence of the metals supports the equation.

would begin with the Til Barsib hypogeum cache[143] and then add Woolley's Carchemish, Tell Kara Hasan, and Hammam grave materials, including a cylinder seal which Frankfort considered peripheral Early Dynastic III in type,[144] the rather rich "Early Bronze II–III" yield from Gözlü Kule, and the yields of Mishrifé-Qatna tomb IV and Tell ᶜAs tombs I–III, which include an interesting disk with *repoussé* decoration.[145] Unfortunately, no metal is shown from Hamah, though an ax and pierced toggle pins are mentioned. The types which such a catalogue of metals would include, as is well known,[146] would allow an excursion from at least Baluchistan to Cyprus and the Aegean and south through Palestine into Egypt. This wide distribution is very impressive, especially when it is recalled that at least some metal objects must have been homemade, as molds from Tell Taᶜyinat (Fig. 350:1) and Gözlü Kule[147] indicate. This broad spread must have important cultural meanings, but whether it also gives direct indication of synchronization from one end of the area of distribution to the other—whether it is an instance of the Americanists' "horizon style"[148] for example—must remain a moot point for the moment.

The chronological positioning of Phase J can be approached from both ends. The phase must link with the Palestinian–Egyptian web of artifactual stratigraphy at Wright's "Middle Bronze." The Megiddo white-on-black goblets and "teapots," knot-headed and pierced toggle pins, and general ceramic similarities to Tell Bait Mirsim J–I suggest the types of linkages available in an otherwise quite different assemblage. Wright suggests the twenty-first and twentieth centuries B.C. for his "Middle Bronze." It is unfortunate that the yield from Jubail cannot be used with greater precision from a northern point of view.

To the east, the linkages are with Shaghir Bazar 5–4 (Phase I) and 3–2 and the Brak "Sargonid" levels (Phase J). Eventually, one hopes, detailed reporting on Tell al-Hariri will also be of aid. The Khabur assemblages also are of a generally different complexion from those in the ᶜAmuq. Actually, the linkages between Shaghir Bazar 5–4 and ᶜAmuq Phase I are not very satisfactory; the metal probably does best if Til Barsib is kept in mind, and Mallowan illustrates a Til Barsib type tripod bowl,[149] but also little cyma-profiled cups (cf. Phase H; p. 352),[150] from Shaghir Bazar 5. The case for equating Phase J with the Brak "Sargonid" levels and with Shaghir Bazar 3–2 is much more satisfactory. The gray ware, including bottles,[151] and the Smeared-Wash Ware (see p. 520)[152] are the more precise links, especially in view of the Phase J type goblets which Mallowan says occurred at Brak "exclusively in Sargonid to Third Ur Dynasty levels."[153] The metals (via the catalogue outlined above)

[143] We tend (p. 520) to consider the Til Barsib hypogeum pottery as of Phase I rather than Phase J type, since it does not include the characteristic incised decoration through paint. Our single (Phase J) shaft-hole ax (Fig. 351:9) and the figures on pots (Fig. 350:5 and esp. 3) might suggest that the hypogeum is closer to Phase J, but we are not inclined to insist on these particular links except to suppose that they discourage placing the hypogeum (on the basis of its "champagne cups") earlier than Phase I.

[144] See *Carchemish* III 214 ff.; *AAA* VI 89–91 and Pl. XXVII 1.

[145] See Comte du Mesnil du Buisson, *Le site archèologique de Mishrifé-Qatna* (Paris, 1935) pp. 144 f., and "Une campagne de fouilles à Khan Sheikhoun," *Syria* XIII (1932) 185–88.

[146] See e.g. Hillen, "The Early Development of Metal-Working in the Near East," and Schaeffer, *Stratigraphie comparée et chronologie de l'Asie occidentale (III^e et II^e millénaires)* I (London, 1948).

[147] Goldman, *Excavations at Gözlü Kule* II 304–6.

[148] See Gordon R. Willey and Philip Phillips, *Method and Theory in American Archaeology* (Chicago, 1958) pp. 31–32.

[149] "The excavations at Tall Chagar Bazar, and an archeological survey of the Ḫabur region, 1934–5," *Iraq* III (1936) Fig. 10:12.

[150] *Ibid.* Fig. 10:16–17.

[151] Cf. our Fig. 348 with *Iraq* IX, Pl. LXXI.

[152] Mallowan (*Iraq* IX 191) remarks that the ware is rare and occurs only in "Sargonid" levels on several of his sites and suggests that it is not later than the Akkadian period.

[153] *Ibid.* Pl. LXXV 15–17 and pp. 235–36.

fit the general equation well. But, since the Brak goblets and gray ware extend to the "Third Ur Dynasty" levels, we feel that Phase J likewise must have extended to about the end of this range. If we accept Landsberger's assessment of Sidney Smith's dates as "gut möglich,"[154] then the end of Ur III falls very close to 2000 B.C. This date, along with the indications from Palestine, inclines us to round off the time for the end of Phase J at 2000 B.C.

It must, of course, follow that we find Woolley's dates for the earlier levels of ʿAtshanah fantastic. No Phase J or earlier material has been published from the site,[155] nor did we ever note such ceramic traces during visits to ʿAtshanah before, during, or after its excavation. All of ʿAtshanah's development was post-Phase J, and Woolley's reckoning for the beginning of its level XVII[156]—with its manifest similarities to our Phases K and L—must be lowered by about fifteen hundred years.

Embarrassingly little can be said in the way of general cultural interpretation. The exposure of Hamah J appears to have been considerable, but little is yet known of its architecture. The exposure at Tell Masin is probably the largest available in any sort of published form, for the Syrian region, and it hardly allows generalizations as to standard house types, let alone a town plan.[157] It would be surprising if buildings of some degree of monumentality were not being built in the Syrian region by this time, but I know of no sure traces.

Thus the culture manifested by the materials of Phases I–J and their Syrian equivalents seems to show a regionally restricted ceramic. Other ceramic traditions are represented in the immediately surrounding territories—east of the Euphrates, south along the Lebanese coast and in Palestine, and even to some degree in Cilicia. But in its more "importable" categories of artifacts, especially its metals, the generalized Phases I–J assemblage suggests a culture which had very broad contacts with the world of its time.

The regional cast and at least some of the basic artifactual traditions which were established during Phases I and J lasted well into the second millennium. Perusal of this generalization must await publication of the later ʿAmuq assemblages.

[154] "Assyrische Königliste und 'dunkles Zeitalter,' " *Journal of Cuneiform Studies* VIII (1954) 115.

[155] Except a few small sherds with incised decoration through paint (Woolley, *Alalakh*, p. 352), which probably reached the site as strays in the raw clay for mud bricks.

[156] *Ibid.* p. 380.

[157] See Comte du Mesnil du Buisson, "Souran et Tell Masin," *Berytus* II (1955) 123 ff.

APPENDIX I
FLINT IMPLEMENTS FROM TELL AL-JUDAIDAH[1]

By JOAN CROWFOOT PAYNE

THE implements described here are from Phases A–B, the First Mixed Range, and Phases F–H. In each group implements of flint and other stones are very numerous, and three quite distinctive industries are represented. The earliest of these is found only in Phases A and B. The implements from the First Mixed Range represent an entirely different industry. The flints of Phases F, G, and H, while showing very slight changes from phase to phase, all belong to a third industry.

The commonest materials used in the manufacture of these implements are chert, flint, and obsidian. Chert and flint could easily have been obtained locally. The obsidian may well have been brought from a field discovered by Professor Garstang near Aksaray, in Anatolia.

PHASES A–B

TOOLS OF FLINT AND CHERT

By far the greater number of these tools are of buff-colored chert; most of the remainder are of brown chert, and a few are of brown flint.

JAVELIN HEADS

The javelin heads (Figs. 30:1–3, 59:1–3, and 60, Pl. 65:13) are mostly very well made and range from almond-shaped to diamond-shaped. The tang measures generally about two-thirds of the total length of the weapon. The most striking feature of the tang is the presence, in the majority of the specimens which are complete at the lower end, of a definite expansion of the sides at the lower end (Figs. 30:1, 3 and 60). A large number of specimens are incomplete at the lower end of the tang; it is very probable that these likewise had the expansion and that the breaking was due to weakness at the narrowest part of the tang. The expansion would clearly be very useful in hafting the javelin heads, serving the same purpose as the notches found in arrowheads and javelin heads of earlier periods in Palestine.[2]

Comparatively few of the specimens are complete; most of them are either complete tangs or parts of tangs broken at both ends. The tangs, which are triangular in cross section, generally are rather thick and are covered with neat fluting retouch over the upper surface; this

[1] [As mentioned on p. 39, we have made a few revisions in Mrs. Payne's text (written in 1937) to bring it up to date. We deleted most of her introduction, in which she described the levels in which the flints were found. The nomenclature was outmoded, and in any case more ample descriptions are provided in the chapters dealing with the successive phases. Also omitted are her sections on celts, since, inadvertently, we sent only a small number of the total bulk to her for study and these are described along with the other celts under the pertinent phases. Minor editing includes substitution of the "phase" terminology for the earlier "period" nomenclature (see p. 11), addition of some flints which were later found among the sherd collections, and elimination of a small number of flints from questionable findspots (not known in detail at the time of Mrs. Payne's study). In a few cases, as the whole bulk of archeological material was worked over, it was found that a given floor belonged to a phase later than that to which it was originally assigned. Thus the flints from such floors were reassigned to their proper phases, and Mrs. Payne's descriptions of specific examples were transferred to the proper sections. With her text Mrs. Payne included a chart giving the types and quantities of flint and obsidian artifacts for each of the industries which she describes. The original chart was expanded to cover all the phases (Table V), but the Dhahab flints were omitted.—L. S. B.]

[2] See Neuville, "Le préhistorique de Palestine," *Revue biblique* XLIII 252 and Fig. 2:4–6; Joan Crowfoot, "Notes on the flint implements of Jericho, 1935," *AAA* XXII (1935) 176 and Pl. LVI *b* 1, 3.

fluting is generally made by the removal of flakes from the two sides obliquely toward the midrib, where flake scars of both sides intersect. In a few examples, which are unusually thick, these flake scars are not long enough to reach the midrib and there is further fluting retouch running from the midrib out toward the sides (see Fig. 30:2, Pl. 65:13). There is generally a little flat retouch under the extreme tip of the tang on the bulbar face.

The retouch on the heads of the weapons, which are short in comparison with the tangs, varies considerably. There may be fluting retouch over the entire bulbar face or upper surface; there may be flat retouch along both sides on either face or over only the tip on the bulbar face; or there may be no retouch at all.

Less well made specimens, with no fluting retouch and with the tang roughly shaped with steep retouch, are comparatively rare.

SICKLE BLADES

Small blade sections used as sickle blades are extremely numerous (Figs. 30:4–7, 59:6–9). They show a well defined luster along the working edge and little variation in size, the average dimensions being 35 × 15 × 4 mm.[3] Very few specimens have been utilized along both sides, while the remainder, used along one side only, have generally a fine denticulation along the working edge; this denticulation may be made by retouch on either surface, though the retouch is more commonly on the bulbar face.

The back and the ends are generally not trimmed in any way. In a very few specimens the section appears to have been broken by a rather elaborate method which is fairly common in the Neolithic layers of Jericho;[4] at Judaidah the sections showing this technique are too rare to allow any conclusions regarding its use there; they may even be wholly accidental.

BORERS

Most of the borers (Fig. 59:11–12) are made on rather broad blade sections and have rough trimming on each side of the point on the upper surface; this retouch extends along the sides of the blade in only one or two of the specimens. One double-ended borer, which is retouched around the points only, shows a definite polish resulting from use at both ends. The remainder are on smaller and neater blade sections, measuring generally *ca.* 40 mm. in length and 10 mm. in width, with fine nibbling retouch on both sides of the point, extending for varying distances along the sides of the blades.

GRAVERS

Gravers (Figs. 30:8, 59:13–14) are not at all numerous and are on the whole quite well made. The following types are present:

Single-blow: 2 specimens. Both of these are very rough; one is made on a thick flake, the other on a broken blade.

Single-faceted (Fig. 59:14): 3 specimens. These are all quite neatly made on blade sections.

Polyhedric: 1 specimen. It is on a blade section; the working end is small and neatly made.

Angle (Fig. 59:13): 4 specimens. All are made on blade sections and are obliquely straight-trimmed. One specimen is made on a borer, the graver facet having removed part of the retouch on one side of the working end. Two specimens are double-ended tools; one of these is a graver at both ends, the other a neat end scraper at the opposite end.

[3] [The lengths vary from 17 to 83 (a lone example) with two-thirds of the sickle blades concentrated between 27 and 40 mm. The most popular length is 32 mm., then 29 mm. The widths vary between 8 and 32 (a sport) with over two-thirds concentrated between 12 and 17 mm. The most popular widths are 14 and 13 mm., then 12 and 15 mm.—L. S. B.]

[4] This method involves making a notch in the blade, at the point where it is desired to break it, and resting the notch astride an anvil; the edge of the blade opposite the notch is then struck with a wooden bar. As a result each part of the blade is left with half the notch, and a transverse facet runs from the notch to the opposite side of the blade. At Jericho this technique was probably used when a sickle blade of exact length was required to fit a space in a haft. See Joan Crowfoot, "Notes on the flint implements of Jericho, 1936," *AAA* XXIV (1937) 47–48 and Pl. X.

SCRAPERS

These are made on flakes with considerable variation in size and thickness. The striking platform of the flake is usually trimmed or broken away. The thicker specimens have rather irregular steep retouch along one side; the thinner, and more numerous, flakes have neat flat retouch along one or both of the sides.

END SCRAPERS

There are few end scrapers (Fig. 59:10); they are made on broad blade sections and have fairly neat retouch around the end. The ends vary in shape. One specimen has a straight end, one ogival; the remainder have a rounded end. The retouch extends also along part of one side in four specimens. Two specimens are made on sickle blades.

FABRICATORS

A few very thick blade sections are steeply trimmed along both sides and around one end, which is in the shape of a blunt nose. In all cases the retouch is very rough, and the working edge is much too irregular to be used for scraping.

BLADES

The blades (Fig. 59:16) are generally rather small, averaging *ca.* 80 × 15 mm.; the majority are slender and regular in shape, and others are broader and somewhat rougher. The striking platform is unfaceted, but it is usually extremely small, if not completely obliterated, as a result of battering on the striking platform of the core before removal of the blade. Most of the blades have been utilized, though seldom to any very great extent. Fragments of broken blades such as are used for sickle blades are very numerous and also generally show signs of utilization.

FLAKES

The flakes show considerable variation in shape, but are mostly rather small and thin. As in the case of the blades, the striking platform is extremely small where it is not completely battered away. Only a few of the flakes have been used; the majority are probably merely flakes removed during the trimming of cores.

Lames de dégagement

These blades (Fig. 59:15) are triangular in cross section and battered along the midrib either from both sides or from one side only. The majority are small and short, measuring only *ca.* 45 mm. in length, but some specimens are longer and very broad.

CORE TABLETS

The only two specimens are flakes, roughly rectangular in cross section, removed from the striking platforms of cores to revive them. The upper surface of the flake is the old striking platform, from which flake scars run, where blades have been removed from the core, to be truncated by the bulbar face of the core tablet.

CORES

About three-fourths of the cores (Fig. 30:9) are quite neatly made blade cores. They are single-ended, the unfaceted striking platform generally being at an angle of *ca.* 45° to the flake scars, though it may be at right angles to them. Usually blades have been removed from about half the circumference of the striking platform, and from the other half one or two ridges run up to the top of the core and are battered in the same way as the *lames de dégagement.* The remainder of the cores are merely chunks, with flakes or blades removed more or less all over.

VARIOUS TOOLS

A number of blades or blade sections have fairly neat flat retouch along one or both of the sides.

Smaller blades with fine nibbling retouch along one or both of the sides are less numerous.

A few blade sections were probably intended for use as sickle blades, though they do not show any luster; some are finely denticulated along one edge, and others are trimmed along the back and across both ends.

A very broad blade has flat retouch along both sides near the tip and around the bulbar end to make a very short tang. Both sides have been utilized, and the tool may be a knife blade which was hafted in the same way as a modern table knife.

A few blades and flakes are roughly notched by retouch on either bulbar face or upper surface; the notches are irregularly placed and seem to have no particular significance.

Tools of Obsidian

The obsidian used is transparent and generally pale gray in color.

JAVELIN HEADS

There are no complete specimens. Only a few tangs were found (Fig. 59:4–5), and they are of exactly the same type as those of the chert javelin heads. They are triangular in cross section and very thick, with fine fluting retouch over the upper surface and the extreme tip on the bulbar face. One specimen shows expansion of the lower end of the tang as noted on some of the chert javelin heads.

BORERS

There are only two borers, both made on very small blades. Both have nibbling retouch along both sides of the blade. In one specimen the retouch is on the upper surface, and small flakes have been removed from the bulbar face of the point. In the other specimen the left side is retouched on the upper surface, and the right side on the bulbar face.

BLADES WITH NIBBLING RETOUCH

Very small blades, usually broken, often have nibbling retouch, which is generally very neat and may be along one side or both sides on the upper surface or on the bulbar face. When there is retouch along one side only, the second side has often been utilized.

BLADES

Complete and broken blades are fairly common and usually small, varying from *ca.* 55 to 25 mm. in length. The striking platform is very small as a result of battering on the striking platform of the core before removal of the blade. Practically all the specimens have been utilized.

FLAKES

These are very small and irregular in shape. The majority are obviously the waste material produced in trimming cores, and only a few have been utilized. The striking platform is the same as on the blades.

Lames de dégagement

These are small and neat. The midrib may be battered along one side or both sides.

CORE TABLETS

Only two specimens were found, measuring 40 × 13 × 10 and 27 × 12 × 4 mm.

CORES

Most of these are small neat blade cores, single-ended and oblique-fronted; the unfaceted striking platform is at an angle of *ca.* 45° to the surface from which blades have been removed. In some of the specimens there is a ridge, battered like that on a *lame de dégagement*, running up the back from striking platform to tip. A few rougher cores, just chunks with flakes removed from any face, were also found.

VARIOUS TOOLS

One blade (48 × 10 × 3 mm.) is serrated along both sides by retouch on the upper surface. Several blades or blade sections have a little flat retouch along one side.

CONCLUSIONS

The flint industry of Phases A and B belongs to a culture which has not before been described in detail. The flint and obsidian industry of the lower levels of Mersin, in Cilicia, belongs to the same culture. So far only material from a preliminary sounding has been published, but Professor Garstang has very kindly given me permission to refer to the results of his 1938/39 season.[5] The chief difference between the industries of Judaidah and Mersin is that at Judaidah, although obsidian is by no means rare, chert and flint are used for the vast majority of tools, while at Mersin the reverse is the case, chert and flint being comparatively rare; this difference, however, is only to be expected, for Mersin is closer than Judaidah to the supposed source, near Aksaray, of the obsidian used at both sites.

A few implements of flint and obsidian and a few small jadeite celts, together with pottery apparently of Phase A, were found in a cave near Judaidah (see p. 18).[6] The total number of specimens from this cave is so small that no definite conclusions about its industry can be drawn, but in all probability it belongs to the same culture as that of Mersin and Judaidah Phases A–B. Among the flint implements from the cave are one complete javelin head and two broken javelin heads which would not be out of place in Phases A–B, though the complete specimen does not show the expansion at the end of the tang which is so characteristic of Phases A–B. The obsidian tools consist only of small blades and blade sections.

The pottery of Phases A–B has connections with that of Nineveh 1, Ras Shamra V, and Sakçagözü I, but the flint and obsidian tools found at these sites do not appear to bear much resemblance to those of Judaidah.

The tools from Nineveh 1–5 are said to show no evolution at all.[7] Comparison with other sites suggests that this is somewhat unlikely. However, if it really is so, the Cananean type of blade, which is undoubtedly found in the later of these Nineveh levels, must be present in level 1 also.[8] Cananean blades do not appear at Judaidah until Phase F. The obsidian from Nineveh is said to be of Vannic origin.

The flints from Ras Shamra V are not described very fully, and no drawings but only a few photographs have been published,[9] so that it is impossible to compare them in detail with those from Judaidah. Since no javelin heads are shown, it is unlikely that the two industries have very much connection.

[5] See notes by Veronica Seton-Williams in John Garstang, "Explorations in Cilicia," *AAA* XXIV 63–64; 1938/39 season now published by Miles Burkitt in *AAA* XXVI (1939/40) 51–72.

[6] See T. P. O'Brien, "A Chalcolithic cave site in North Syria," *Man* XXXIII, No. 182.

[7] See R. Campbell-Thompson and M. E. L. Mallowan, "The British Museum excavations at Nineveh, 1931–32," *AAA* XX (1933) 143–44.

[8] [Unfortunately the Ninevite and Ras Shamra flints have not been treated by an expert familiar with the materials, such as Mrs. Payne. Hence at this stage we feel one can only say that flint was used for making tools at Nineveh and Ras Shamra but that it is impossible to make any comparisons.—L. S. B.]

[9] See Claude F. A. Schaeffer, "Les fouilles de Ras Shamra-Ugarit," *Syria* XVI (1935) 164–65; *Ugaritica* I ("Bibliothèque archéologique et historique" XXXI [Paris, 1939]) Fig. 3.

Period I of Sakçagözü yielded a few flakes of flint and obsidian, but no worked implements worth mentioning.[10]

This earliest flint industry at Judaidah bears some resemblances to that of the Neolithic levels of Jericho (Tahunian II).[11] The same type of sickle blade, with fine denticulation along the edges and no retouch along back and ends, is common to both, though at Jericho the sections on which such sickle blades are made are generally longer. In both industries long well made javelin heads are common, some of those from Jericho showing fluting retouch almost as even and delicate as that on the specimens from Judaidah, though the tangs of Jericho are generally not so long and have no expansion at the lower end. In other respects the industries are less similar: at Jericho gravers are much more numerous, and obsidian, as would be expected, is much less common, while the well made double-ended blade cores are not found at Judaidah. Taking into consideration the distance between the two sites, however, the points of similarity are more striking than those of difference, and some connection may exist between them.

Inventory

TOOLS OF FLINT AND CHERT

Javelin heads	59	Blade sections	409
Sickle blades	380	Flakes	138
Borers	16	*Lames de dégagement*	20
Gravers	10	Core tablets	2
Scrapers	21	Cores	31
End scrapers	8	Various	90
Fabricators	4		
Blades	122	Total	1,310

TOOLS OF OBSIDIAN

Javelin heads	4	Core tablets	2
Borers	2	Cores	14
Blades with nibbling retouch	31	Various	6
Blades	48		
Blade sections	267	Total	422
Flakes	39	Grand total	1,732
Lames de dégagement	9		

THE FIRST MIXED RANGE

Tools of Flint and Chert

Buff-colored chert is by far the most common material, but there are also a few tools made of brown chert and of brown or gray flint.

JAVELIN HEADS

There are only four fragments. Two lack both tip and tang; one of these is covered with rather irregular flat retouch over both surfaces, the other with fluting retouch on the bulbar surface only. The other two fragments are long narrow tangs, triangular in cross section, with fluting retouch on the upper surface along both sides and extending almost to the midrib.[12]

[10] See V. Seton-Williams in *AAA* XXIV 133. [11] See Joan Crowfoot in *AAA* XXII 176–81 and XXIV 46–49.

[12] [It is difficult to assign these fragments to any definite phase. On the basis of our present knowledge, none would seem to belong to Phases C–E. The most likely guess is that the fragment with rather irregular flat retouch could be assigned to Phase F and the other three fragments to Phase B.—L. S. B.]

SICKLE BLADES

Most of the sickle blades are quite unlike those of Phases A–B. They are made on larger broader blade sections. Only one side is lustrous through use and is usually finely denticulated, the teeth being made by retouch on the bulbar face or, more generally, on the upper surface; there is steep retouch, usually quite neat, along the back and both ends, along the back and one end, or across the ends only (Fig. 94:1–7). A number of sickle blades are roughly triangular in shape (Fig. 94:6–7). These are made either on the bulbar section or on the extreme tip of the blade; as the blade tapered to both bulb and tip, these sections were roughly triangular and needed retouch only along the back and across the break.[13]

There are a few smaller sickle blades of Phases A–B type, with no retouch along the back and ends and with fine denticulation along the working edge (Fig. 94:8). Two large sickle blades are of the Cananean type (Fig. 94:11), which is characteristic of Phases F–H.

BORERS

There are only six borers (Fig. 94:9, 12), made on blade sections of various sizes. Five have fairly neat steep retouch along both sides near the point, in four on the upper surface only and in one partly on both surfaces. The last specimen has rather rough flat retouch under the tip on the bulbar face. One specimen is made on a sickle blade (Fig. 94:9).

GRAVER

This is single-faceted and neatly made on a small blade section.

SCRAPERS

These are made on either thick flakes or broad blades. They have neat flat retouch along one side and may be of any size or shape.

END SCRAPER

The only end scraper is on a blade section. It is neatly trimmed around the end and has also nibbling retouch along one side.

FABRICATORS

One is a thick blade section, triangular in cross section, with steep retouch along both sides on the upper surface and squamous flaking along both sides and across one end on the bulbar face. The other specimen is a fairly thick blade section with steep retouch on the upper surface along both sides and across the end.

BLADES WITH NIBBLING RETOUCH

There are a few blades, broken or complete, with nibbling retouch along one side, to make it blunt, and signs of utilization along the other side. One of these specimens (Fig. 94:10) has a neat notch in the cutting edge near the bulbar end, possibly for hafting.

BLADES[14]

The majority are on the whole fairly small and rough, the average measurements being *ca.* 60 × 20 mm. The striking platform is generally extremely small as a result of battering on the core before removal of the blade. Many specimens are broken and are generally either bulbar or tip sections; there are very few middle sections, probably because the blades were too short to be broken into more than two sections. Most of the blades have been utilized.

[13] [See pp. 120–22 for comparison of First Mixed Range sickle blades with those of Phases C–E.—L. S. B.]

[14] [A few of the sections are probably from Cananean blades. There is only one good example of the Phases C–E type of blade which fans out broadly from a small plain striking platform.—L. S. B.]

FLAKES

These are very irregular in shape and size. The striking platform, when present, is unfaceted, but it is usually battered away as in the case of the blades. A few flakes have been utilized.

Lames de dégagement

These, like the blades, are rather short and broad (Fig. 94:13). The central ridge is battered from both sides.

CORES

Two of these are rough single-ended blade cores, poor examples of the type prevalent in Phases A–B.

Three specimens are very roughly disk-shaped. One surface, which is trimmed so as to be slightly convex, has been used as a striking platform for the removal of flakes from the other surface.

The majority of the specimens, however, are merely chunks with flakes removed at all angles.

VARIOUS TOOLS

Two blade sections have flat retouch along both sides.

One blade section, with flat retouch along one side, has a shallow notch made near the tip of the blade.

One blade section has steep retouch along the back and a finely denticulated edge; it was probably intended for use as a sickle blade.

Tools of Obsidian

BLADES WITH NIBBLING RETOUCH

These blades (Fig. 94:14–15) with one exception are broken. They have rather irregular nibbling retouch, along one side in four examples, with the second side utilized, and along both sides in one example.

A triangular flake, with the bulb broken away, has nibbling retouch along one side and very neat fluting retouch extending from this side to the midrib (Fig. 94:16).

BLADES

The blades are quite small, measuring generally *ca.* 40 × 10 mm. The bulbar end shows the same sort of battering as in the case of the chert and flint blades, and the striking platform is therefore extremely small. All the specimens have been utilized.

FLAKES

These are irregularly shaped and very small. Only two of the four specimens have been utilized.

Lames de dégagement

There are only two specimens, measuring 45 × 15 and 41 × 11 mm. One has been utilized.

CORES

One is a very small and neat blade core, oblique-fronted and single-ended. The ridge running up the back from the striking platform to the tip is battered like the midrib of a *lame de dégagement*. The other core is merely a small chunk with flakes removed all over.

Conclusions

A number of implements would be in place in Phases A and B, the javelin heads and some of the sickle blades in particular. There are also a few Cananean blades, which are characteristic of Phase F–H. However, apart from these, there is a group of sickle blades which are

peculiar to the First Mixed Range and do not have counterparts elsewhere. These sickle blades show a marked change from those of Phases A–B; they are definitely broader, somewhat larger, and generally the back and ends are blunted by steep retouch. Unfortunately I have been unable to determine whether sickle blades of this type are found consistently with early Halaf pottery; the material is inaccessible and the publications are meager. However, the flint industry of Ras Shamra IV[15] does sound similar; the sickle blades are described as denticulated along the cutting edge, steeply retouched along the back, and slightly curved for setting into a haft.[16]

Inventory

TOOLS OF FLINT AND CHERT

Javelin heads	4	Blades	52
Sickle blades	52	Blade sections	42
Borers	6	Flakes	57
Gravers	1	*Lames de dégagement*	5
Scrapers	12	Cores	17
End scrapers	1	Various	7
Fabricators	2		
Blades with nibbling retouch	9	Total	267

TOOLS OF OBSIDIAN

Blades with nibbling retouch	6	Cores	2
Blades	13	Various	1
Blade sections	32		
Flakes	4	Total	60
Lames de dégagement	2	Grand total	327

PHASES F–H

Tools of Flint and Chert

Coarse-grained chert, varying in color from dark buff to brown, is used for nearly all the tools; the remainder are made of dark brown or gray flint.

ARROWHEADS

There are three arrowheads, all quite unlike one another. One specimen is from Phase H (Fig. 294:3). It is rough, with a small tang and two short divergent wings; nibbling retouch outlines the tang and wings on both surfaces. The other two specimens (from Phase G) both lack the tip. In one (Fig. 246:11) the tang is short and wide and is separated from the head by small notches; there is flat retouch around the tang and along both sides of the head on the bulbar face and around the tang on the upper surface. The third arrowhead has a long thick tang which runs straight into the head; there is steep retouch along both sides.

JAVELIN HEADS

The majority of the javelin heads (Figs. 186:1–2, 246:1–4, 294:1) were found in Phase G. Most of them are leaf-shaped. The long and rather broad tang runs straight into the head and

[15] See Schaeffer in *Syria* XVI 162–63.

[16] [Here again we feel that it would be frustrating and futile to attempt comparisons with Nineveh, Tell al-Halaf, and even Ras Shamra until their flints are worked over in detail by an expert (cf. p. 529, n. 8). Although highly improbable, it is of course possible that the Cananean blade appears earlier in North Mesopotamia than in Syria and Palestine. At present we feel there is no real evidence to show that the Cananean blade does flourish in that area at such an early period.—L. S. B.]

generally represents about one-third of the total length. It is covered with flat retouch over both surfaces; in some cases this retouch is rather rough and irregular, and in others progressively neater until it becomes fine parallel fluting; the retouch over the bulbar face usually does not extend so far up the tang as that on the upper surface. In most cases the lower end of the tang is broken off. The sides of the head may be retouched on either surface or not at all; one specimen (Fig. 246:2) has a serrated edge and flat retouch all over the bulbar face. In the majority, the tip is missing, but otherwise there is flat retouch under the extreme tip on the bulbar face.

A few specimens differ slightly from the type described above. One example (Fig. 186:1) shows a slight attempt at wings. Some have a small tang separated from the head by a slight notch (e.g. Figs. 246:4, 294:1). One tang (from Phase H) is exactly like those of Phases A–B; it is very long, covered with flat retouch over the upper surface and under the end only on the bulbar face, and has the characteristic expansion at the lower end.

SICKLE BLADES

The sickle blades (Figs. 186:9, 246:12–14, 294:6–8) are made mostly on sections broken from large blades of the type known in Palestine as "Cananean." In these blades the striking platform is faceted; the midrib is generally removed before the core is struck, a deep negative bulb of percussion being left on the upper surface of the blade at its bulbar end. The sections used for these sickle blades are very large in comparison with those of the earlier phases. They average 80 mm. in length and 30 mm. in width. The specimens from Phase F appear on the whole to be sightly shorter and narrower than those from Phases G and H. All the specimens have well developed luster along one edge, and about a third are lustrous along the second side also; the latter specimens must have been used until the edge was blunt and then reversed in the haft so that the other side could be used. In about three-quarters of the sickle blades rather rough retouch produces irregular denticulation along the working edge; this denticulation is similar to that of the earlier sickle blades but slightly coarser and not nearly so even. The specimens which are not denticulated have no retouch along the working edge. A few specimens are steeply trimmed along the back or across one or both of the ends, while others are retouched to a point at one end presumably for use as end blades of a sickle.

Four sickle blades from Phase F are much smaller, more or less triangular in shape, and retouched along the back and across one end. These specimens are identical with the triangular sickle blades from the First Mixed Range (see p. 122) and are undoubtedly extrusive.

BORERS

Borers (Figs. 186:3–4 and 246:5, 9, 10) are fairly numerous and on the whole quite well made. The greater number are rather small, averaging 40 × 15 mm., with steep retouch along both sides of the point on the upper surface. In some the retouch extends along both sides of the blade, and in a few it is partly on the upper surface and partly on the bulbar face. Two very neat borers (e.g. Fig. 246:10) are made on *lames de dégagement;* they both have steep retouch along both sides on the upper surface and flat retouch under the tip on the bulbar face.

Five specimens are made on much thicker blade sections; they are triangular in cross section and broken off roughly at the lower end. They have rather rough flat retouch over the tip only on the bulbar face (e.g. Fig. 186:3); it is quite possible that these are the tips of javelin heads.

GRAVERS

There are only two gravers, from Phases F and G respectively. The first (Fig. 186:5) is a *bec-de-flûte* made on a fragment of a flake with a very thick edge caused by a hinge fracture. It has been resharpened until the working edge is very irregular. The second is double-faceted and well made on the tip of a disused javelin head.

SCRAPERS

The scrapers (Fig. 186:7) are made on flakes, varying in shape and size; the retouch, which is quite neat, may be along one side or more or less all around. One specimen from Phase G (Pl. 66:6) is a fragment of a typical fan-scraper, made on tabular flint, with the characteristic large faceted striking platform and prominent bulb of percussion.

END SCRAPERS

The end scrapers (Figs. 246:7, 294:5), all from Phases G and H, are made on rather broad blades. The ends may be straight, semicircular, or ogival, and the retouch around them is generally steep and neat. In three specimens there is also retouch along both sides of the blade. Two are double-ended (e.g. Fig. 294:5), both being semicircular at one end and almost straight at the other.

FABRICATORS

Four narrow thick blades, all triangular in cross section, have flat retouch extending almost to the midrib along both sides (Fig. 246:6). The tip is very blunt, with further retouch under it on the bulbar face; one specimen is double-ended. These tools are much too blunt at the tip to have served as either javelin heads or borers.

A fifth blade (Fig. 186:6), coming to a very blunt point at both ends, has squamous flaking along both sides on the bulbar face.

BLADES WITH NIBBLING RETOUCH

A small number of blades or blade sections have rather irregular nibbling retouch along parts of one or both of the sides.

BLADES

There are a few good large Cananean blades. The remainder, which are all small and irregular in shape, are battered at the bulbar end like those of the earlier phases. There are a fair number of sections, both of Cananean (Fig. 186:8, 10) and of small rougher blades. The majority show signs of utilization.

FLAKES

The flakes are very rough and unshapely and generally quite small. The striking platform is plain but in most cases has been battered away as on the smaller rougher blades. The flakes do not appear to have been used and are probably merely waste chips.

Lames de dégagement

One specimen is very neat, with battering along both sides of the midrib and signs of use along both sides. The rest are smaller and much rougher.

CORE TABLETS

Only two core tablets were found. Both are rather rough and measure *ca.* 60 × 25 × 10 mm.

CORES

These are with one exception from Phase F. Four are small neat blade cores, single-ended and oblique-fronted, with plain striking platform at an angle of *ca.* 45° to the flake scars; in two of them the ridge up the back is battered like that on a *lame de dégagement.* Another specimen (from Phase G) is an unstruck blade core of triangular cross section, measuring 88 × 37 × 20 mm.; the ribs are battered, one from both surfaces and two from one surface only, ready for the detachment of *lames de dégagement.* The remainder are small rough chunks with flakes removed in any direction.

VARIOUS TOOLS

A number of blades or blade sections have rather rough flat retouch along one or both of the sides on either bulbar face or upper surface.

Three blades have blunting retouch along one side, and the second side has been utilized.

Three small blades have several shallow notches made in one side.

One blade from Phase G is convex along one side and straight along the other. It has neat steep retouch along the curved side and along both sides near the bulb, to make a tang; the straight side has been utilized. This tool would make an effective knife blade.

Another blade from Phase G has steep retouch along both sides on the upper surface near the bulb, to make a sort of tang, and neat retouch on the bulbar face across the end of the tang, making a chisel edge. The tip of the blade is broken, and both sides have been utilized. This tool could be regarded either as a knife blade, with the retouched end used as a tang, or as a chisel, with the end of the "tang" as working edge.

TOOLS OF OBSIDIAN

ARROWHEAD

One small neat triangular arrowhead was found in Phase H (Fig. 294:2). It has a small tang and very small divergent wings. Rather irregular flat retouch covers the bulbar face, and there is steep retouch all around on the upper surface.

JAVELIN HEADS

There are three fragments from Phases G and H. One (from Phase H) is a tip only, with flat retouch under the point on the bulbar face. One is a head, with flat retouch under the tip on the bulbar face and fluting retouch extending almost to the midrib along both sides. The third is a long and narrow tang of triangular cross section. It has fluting retouch over the upper surface, the flake scars running from both sides to meet along the midrib.

GRAVER

There is one graver (Fig. 294:4), found in Phase H. It is made at one end of a very neat blade core and is single-faceted in type.

END SCRAPERS

There are two specimens from Phase G. One is on a small thick blade section, with steep retouch making an ogival end. The other is a chunk, with steep retouch across one end.

BLADES WITH NIBBLING RETOUCH

A small number of blade sections from Phases G and H have fine nibbling retouch along one or both of the sides, usually on the upper surface but sometimes on the bulbar face. The specimens which are retouched along one side only have all been utilized along the second side. These sections measure generally *ca.* 30 × 10 mm.

BLADES

These are small and neat, measuring generally *ca.* 40 × 10 mm. The bulbar end shows battering as on the smaller chert blades, and all have been utilized. Blade sections are much more numerous than complete specimens and often come from much larger blades.

FLAKES

The flakes are small, thin, and irregularly shaped. They have mostly been utilized.

CORES

All three specimens (two from Phase F, one from G) are small neat blade cores, single-ended and oblique-fronted, with plain striking platform. The ridge running up the back from striking platform to tip is battered as if for removal of a *lame de dégagement.*

VARIOUS TOOLS

Four blade sections have flat retouch along both sides on either upper surface or bulbar face.
One small blade is retouched across one end and has been utilized along both sides.
One larger blade section has fine denticulation along one side.
A small chunk, possibly part of a core, has been utilized.

CONCLUSIONS

The industry of Phases F–H belongs to the Cananean culture, which is well known in Palestine[17] from the beginning of the Early Bronze Age well into the Middle Bronze Age; it is characterized by a particular type of blade. In the earlier stages of this culture in Palestine, for example in Megiddo Stages III–VII and Baisan XVI–XVII,[18] this type of blade is present along with survivals of whatever Chalcolithic industry preceded it; the survivals gradually disappear until, in the well developed Cananean industry, as in Jericho III–VII,[19] the only types of any numerical importance are sickle blades made from Cananean blade sections and fan-scrapers.

The implements of Phases F–H at Judaidah fit very well into this scheme. The Cananean blades found in all three of these phases are typical, though they are definitely larger than those of a correspondingly early date in Palestine, where such blades are very slender when they first appear and do not reach the proportions of the Judaidah blades until about the end of the Early Bronze Age. But the Judaidah blades of Phase F are somewhat smaller than those of Phases G and H. Only one fragment of a fan-scraper was found, in Phase G. This scarcity may be due merely to lack of a source for tabular flint in the neighborhood; on the other hand, it is quite probable that the fan-scraper, which derives from the Ghassulian culture,[20] is a primarily Palestinian feature in the Cananean culture. The javelin heads of Phases F–H are obviously survivals from Phases A–B,[21] for they resemble the earlier specimens strongly, though they are generally rougher.

We have, therefore, in Phases F–H an industry which belongs to the Cananean culture, and the presence of survivals from Phases A–B[22] suggests that it belongs to a fairly early stage of this culture.

[17] See Neuville, "Notes de préhistoire palestinienne," *Journal of the Palestine Oriental Society* X (1930) 205–10, and "Le préhistorique de Palestine," *Revue biblique* LXIII 257.

[18] See Dorothy A. E. Garrod, "Notes on the flint implements," in Robert M. Engberg and Geoffrey M. Shipton, *Notes on the Chalcolithic and Early Bronze Pottery of Megiddo* ("Studies in Ancient Oriental Civilization," No. 10 [Chicago, 1934]) pp. 78–91; G. M. FitzGerald, "Excavations at Beth Shan in 1933," Palestine Exploration Fund, *Quarterly Statement,* July, 1934, pp. 123–34; Joan Crowfoot in *AAA* XXIV 45.

[19] See Joan Crowfoot in *AAA* XXII 174–76 and XXIV 37–39.

[20] See Alexis Mallon, Robert Koeppel, and René Neuville, *Teleilāt Ghassūl* I (Rome, 1934) 55–65.

[21] [We would tend to differ with Mrs. Payne in considering these as survivals. One reason for differing is that items representing the Phases A–B cultural tradition seem to have disappeared from all other categories of materials. In addition, we maintain that, while the projectile points of Phases A–B and those of Phase G are similar in that they are in general leaf-shaped with no marked wings, this similarity is superficial. The expanded tang, characteristic of the Phases A–B projectile points, is not used in Phase G. Moreover, there is a basic difference in technique. The retouch on the Phases A–B examples is excellent, neat and careful throughout. Particular attention is paid to the midrib of the point; in some cases it is even accentuated so that it becomes an effective portion of the projectile point. In the Phase G examples the retouch, although at times neat, is on the whole rougher and more careless. There is a general ignoring of the midrib, which is usually flattened by retouch (see p. 476, n. 9).—L. S. B.]

[22] [See n. 21.—L. S. B.]

Inventory

TOOLS OF FLINT AND CHERT

Arrowheads	3	Blades	17
Javelin heads	18	Blade sections	138
Sickle blades	171	Flakes	51
Borers	20	*Lames de dégagement*	12
Gravers	2	Core tablets	2
Scrapers	19	Cores	8
End scrapers	9	Various	26
Fabricators	5		
Blades with nibbling retouch	16	Total	517

TOOLS OF OBSIDIAN

Arrowheads	1	Flakes	12
Javelin heads	3	Cores	3
Gravers	1	Various	7
End scrapers	2		
Blades with nibbling retouch	13	Total	116
Blades	15	Grand total	633
Blade sections	59		

TABLE V

Quantitative Chart of Flint and Obsidian Artifacts

Phase	Flint																	Obsidian															Totals
	Arrowheads	Javelin Heads	Sickle Blades	Borers	Gravers	Scrapers	End Scrapers	Fabricators	Nibbled Blades	Blades	Blade Sections	Flakes	*Lames de dégagement*	Core Tablets	Cores	Various Tools	Total	Arrowheads	Javelin Heads	Borers	Gravers	Scrapers	End Scrapers	Nibbled Blades	Blades	Blade Sections	Flakes	*Lames de dégagement*	Core Tablets	Cores	Various Tools	Total	
SECOND MIXED RANGE	1	2	28*	2	1				†	2	19	4	2		1	2	64		1	2		1		1		4						9	73
J			3														3																3
I			17								7	1					25																25
H	1	3	45	3		1	3	1	6	4	31	9	1			1	109	1	1		1			4	2	12						21	130
G	2	12	100	14	1	4	6	3	5	8	88	8	8	2	1	17	279		2				2	9	6	31	9			1	3	63	342
F		3	31	3	1	14		1	5	5	19	34	3		7	8	134								7	16	3			2	4	32	166
E	3		228	9	5	5	8	1	†	24	150	6	2			28‡	469			2	1	4	5	†	8	176	24				10	230	699
D			24	1	1	1	2		†	3	18	1				2	53							†		9	7			1		17	70
C			34	4	2		1		†	12	23					2	78							†	2	35	6			1		44	122
FIRST MIXED RANGE		4	52	6	1	12	1	2	9	52	42	57	5		17	7	267							6	13	32	4	2		2	1	60	327
A–B§		59	380	16	10	21	8	4	‖	122	409	138	20	2	31	90	1,310		4	2				31	48	267	39	9	2	14	6	422	1,732

* Including one specimen from post-Phase J context. † Included under "Blades" or "Blade Sections." ‡ Including one tool of chalcedony (see pp. 212 f.). § See p. 46. ‖ Included under "Various Tools."

APPENDIX II
CEREALS AND WEED GRASSES IN PHASE A

By HANS HELBAEK

NO CARBONIZED remains of plants were recovered in levels older than those of Phase G (*ca.* 3000 B.C.) in any of the ʿAmuq sites. With the materials of Phase A being certainly equivalent in time and relative technological simplicity to the general yield of early village sites (e.g. Mersin early Neolithic), every effort was made to identify plant remains in the earliest ʿAmuq levels.

Besides carbonized plant remains themselves, one other type of evidence for plants is usually found in archeological context, beyond the regions of peat formation. This evidence consists of impressions and silica skeletons of plant parts which came to be imbedded in baked clay. In the present case, sherds of the Phase A Coarse Simple Ware, which is heavily chaff-tempered (see p. 47), were put at the writer's disposal. As no impressions occurred directly on the surfaces, the sherds were chipped to pieces with a chisel. Each newly developed fracture surface was closely examined. This painstaking process—which cannot, of course, be applied to large numbers of sherds because it is very time-consuming—revealed imprints of the following plants.

EMMER (*Triticum dicoccum* SCHÜBL.)

One imprint of a spikelet was found in a fairly thin sherd. Whereas the imprint itself was not too well molded, its surface being crudely porous, the cavity contained unusually large fragments of the silica skeleton of the epidermis (Fig. 386 *j*).[1] Normally the remains of silica amount to nothing more than fractions of square millimeters, but in this case the skeletons of the internode with the lower half of the left glume (Fig. 386 *h*) and most of one dorsal pale (lemma; Fig. 386 *g*), besides numerous other fragments, were preserved. The imprint indicates some of the over-all dimensions of the spikelet more or less as in the fresh state. The internode is 2.93 mm. from the lower tip to the articulation scar and 1.60 mm. wide just under the scar. The length of the visible glume is *ca.* 8.00 mm. from the scar to the slightly damaged tip, and across the sturdy nerves the width was at least 1.90 mm. From the impression of the lemma its length may be estimated at *ca.* 9.10 mm.

This spikelet—with a total length, including the internode, of *ca.* 11.5 mm.—corresponded to the average size of those of a grain deposit from a 6th-dynasty tomb at Saqqarah[2] but was smaller than

[1] In the cell walls of the epidermis of grasses and certain other plants silica is deposited during the growth of the cell. This silica remains when the organic material disappears by combustion or decay. When imbedded in the paste of baked-clay objects the silica skeletons may be preserved indefinitely, forming an exact replica of the cell and retaining all the characteristics of the walls and pits.

[2] See H. Helbaek, *Queen Ichetis' Wheat* (Det Kongelige Danske Videnskabernes Selskab, *Biologiske Meddelelser* XXI 8 [København, 1953]).

FIG. 386.—PLANT IMPRESSIONS IN SHERDS OF PHASE A COARSE SIMPLE WARE AND COMPARABLE MATERIALS FROM OTHER REGIONS

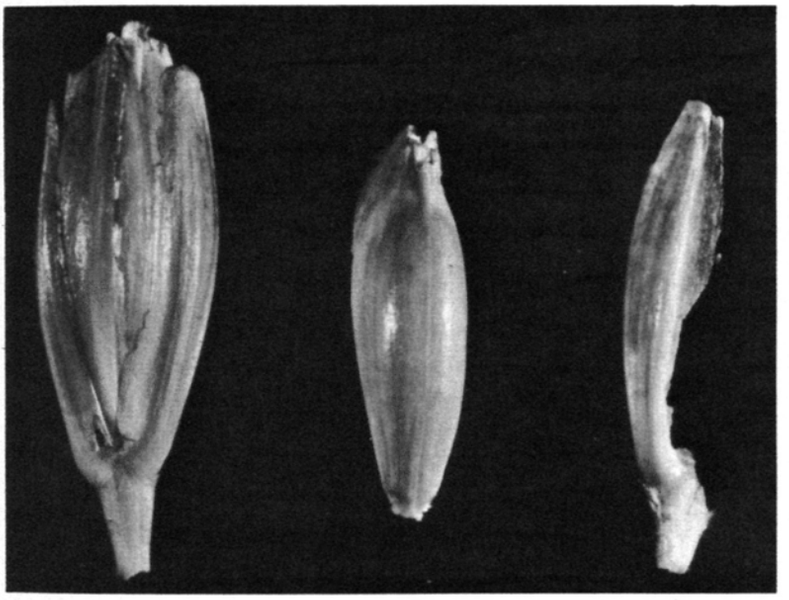
a. Imprint of Hulled barley grain, ventral view
b. Imprint of rye grass floret, ventral view
c. Imprint of rye grass floret, dorsal view
d. Spikelet of modern Abyssinian emmer, dorsal view
e. Dorsal pale (lemma) of modern Abyssinian emmer
f. Left glume and internode of modern Abyssinian emmer
g. Dorsal pale of ʿAmuq emmer, silica skeleton
h. Left glume and internode of ʿAmuq emmer, silica skeleton
i. Silica skeleton of Wild oat pale epidermis
j. Silica skeleton of epidermis in *g–h*
k. Silica skeleton of epidermis of rye grass, from imprint *c*

a–h 6 diameters, *i–k* 485 diameters

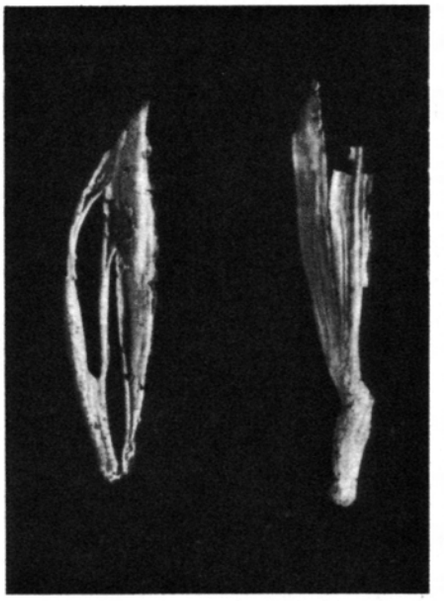
a

b

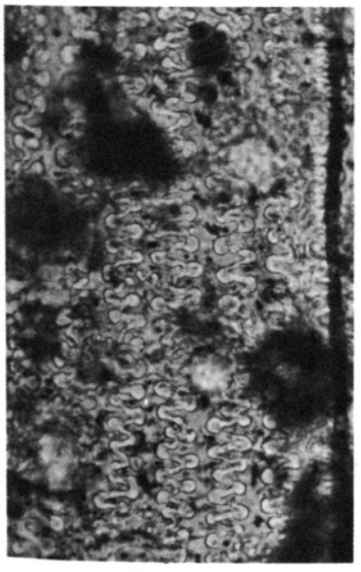
c



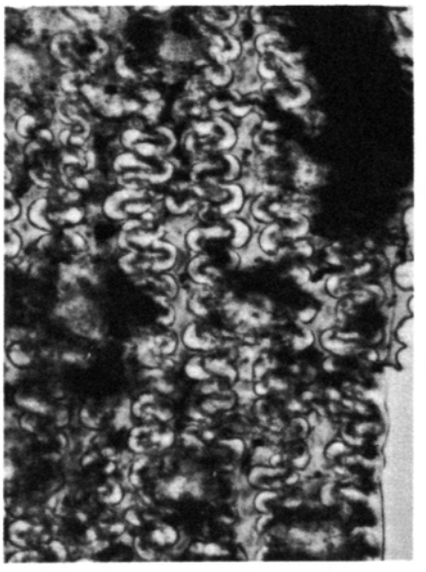
d *e* *f*



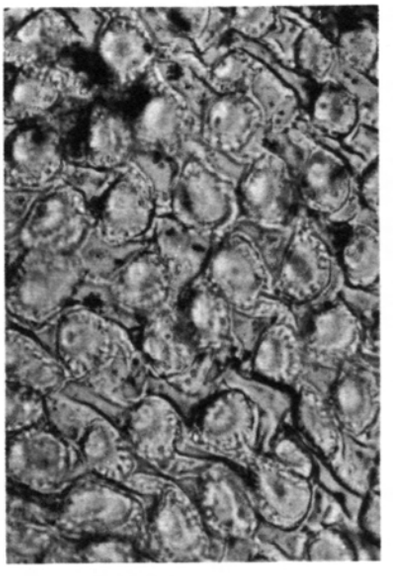
g *h*



i



j



k

those of the Neolithic emmer from the Fayyum, which are *ca.* 12.5 to 13.5 mm. long.[3] The ʿAmuq specimen, however, had a longer internode than the average Egyptian ones.

The silica parts have shrunk more or less. The internode is 2.63 mm. long, and the greatest width across the glume nerves is 1.63 mm. While the pale has greatly shrunk transversely and split and rolled up, it seems to have retained almost its original length, that is, 8.70 mm. For comparison with the macroscopic silica parts two homologous organs of recent Abyssinian emmer are represented in Figure 386 (*e–f*), as also a whole spikelet (*d*) corresponding as nearly as possible to the dimensions of the imprint.

Small silica particles of the ventral pale (palea) show the typical pattern of a wheat epidermis: soft-winding sinuate walls of longitudinal cells alternating with isodiametric cells (Fig. 386 *j*). Their average width is 17.4 microns, and thus, if a certain shrinkage is taken into account, they correspond to this dimension in recent emmer, that is, *ca.* 18–23 microns.

HULLED BARLEY (*Hordeum* sp.)

Two imprints of the floret of this cereal were encountered, but one perished in the process of preparation and cannot be described. The other (Fig. 386 *a*) represents either a boiled and crushed grain or a sterile floret. The ventral fold is almost unwrinkled, and the dorsal pale seems to have been pressed sideways and is seen partly laterally. The width cannot be ascertained, but with a length of 8.40 mm. the floret was a very large one. Chalcolithic barley imprints from Hamah, for instance, do not exceed 7.70 mm.

The imprint does not yield any indication as to the type of spike from which the floret came. At the time in question both two- and six-row barleys seem to have been widely cultivated in the Orient, though at present the question of the emergence of six-row species is rather obscure because of the discovery that early Mesopotamian cultures apparently grew only two-row barley.[4]

OAT GRASS (*Avena* sp.)

Among the small particles of silica recovered, several came from pales of a wild species of the *Avena* genus. The sinuate-walled epidermis cells in this genus are characterized by the crests of the waves being thickened and the connecting parts being thin and fairly straight and by the isodiametric cells being lobed all around (Fig. 386 *i*). The average width of the cells is *ca.* 15 microns. The available characteristics do not indicate the actual species, of which many may be considered for Syria,[5] but the cells are too slender to correspond to the cultivated oat (*A. sativa* L.), the slender wild oat (*A. barbata* POTT), and the bearded wild oat (*A. fatua* L.).

RYE GRASS (*Lolium* cf. *Gaudini* PARL.)

Three imprints of florets of rye grass were found in the sherd that contained the barley imprint. One of the rye grass imprints was as perfect as possible; the imprints of the ventral and dorsal sides were both recovered (Fig. 386 *b–c*), and, in addition, the fine silica skeletons of the lower halves of both pales were preserved in the cavity. This floret is 6.77 mm. long, 1.90 mm. wide, and *ca.* 1.75 mm. thick. The rachilla, flatly rounded in cross section, is 1.82 mm. long and 0.42 mm. across the apical scar. It appears from the imprints as well as from the silica remains that the surfaces of the pales were extremely rough owing to a great density of the isodiametric cells, which silicify to an unusual extent in this genus (Fig. 386 *k*).

The imprint of another floret, obviously of the same species, shows the dorsal side with a tiny fold across the base of the pale and a thin awn (minimum length 2 mm.) proceeding from its apex. Without the awn this floret is only 6.04 mm. long.

The species of these florets has not been safely determined. There is a certain general conformity with the poisonous tares, but the awn base and the rachilla are too slender to fit with either recent or ancient Egyptian (mummified) type specimens of that species. Perennial and rigid rye grass would

[3] As measured by the present writer.

[4] See H. Helbaek, "Archaeology and agricultural botany," University of London, Institute of Archaeology, *Annual Report* IX (1953) 52–55.

[5] See George E. Post, *Flora of Syria, Palestine and Sinai* II (Beirut, 1933) 737–39.

be out of the question, since they are awnless. Thus the most obvious possibility seems to be one of the species of the *Gaudini* group, which may be either awnless or short-awned and which has florets of a similar slenderness.[6]

Thus a slight glimpse was acquired of the farmer's field in ᶜAmuq A times. No new agricultural facts were established; we found the same basic stock of cultivated plants, emmer and hulled barley, that were grown at the time in adjacent regions. Two common weeds, oat grass and rye grass, infested the field then as today. Later both genera supplied progenitors for important cultivated plants, the former for the cultivated species of oats, the latter for one of the major fodder grasses of the present day.

The character of the tempering of the potsherds which were examined suggests that the material used was actually animal droppings. Since the excrement of cud-chewing animals does not contain macroscopic particles of plants, one of the equines must be involved. That is the only source from which such material could be obtained without extensive effort. Only occasionally were the fragments more than a few millimeters long, and bits of grass leaves in full breadth or spikelets were of rare occurrence.

Once before the writer has encountered an ancient example of droppings being exploited industrially: in a wooden mummy case of the late third millennium they were used as a putty for filling knot holes under the gesso coating. In that instance also a few more or less whole spikelets of emmer and other larger plant parts were found.

[6] See *ibid.* pp. 789 f.

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	13	x4699	
	14	x4640	
	15	x4581	

* For findspots see Index of Field Numbers (pp. 560 ff.).

Figure	Serial No.	Field No.	Plate Reference
	16	x4793	
60	1	x5134	
	2	x5133	
	3	x5132	
61		x5125	
62	1	x4827	
	2	x5074	
	3	x5076	
	4	x5078	
	5	x5073	67:6
	6	x5077	
63	1	x4775	68:16
	2	x4776	68:15
	3	x4621	
64	1	x4289*a*	
	2	x4290*a*	
	3	x4778	
	4	x4885	69:16
	5	x4624	
	6	x4893	
65	1	x4387	
	2	x4892	
	3	x4607	
	4	x4779	
	5	x4929	
	6	x4932	
	7	x5072	
	8	x4618	
	9	x4519	
	10	x5088	
	11	x4681	68:5
66	1	x4385	
	2	x4291*a*	
	3	x4683	
	4	x4370	
	5	x5127	
	6	x4299	67:11
	7	x4606	67:10
	8	x5075	
	9	x4886	
67	1	x4366	
	2	x4889	
	3	x4610	
	4	x4611	
	5	x4890	
	6	x4287*a*	
	7	x4612	
	8	x4508	
	9	x4613	70:14
	10	x4615	
	11	x4518	
	12	x4616	
	13	x4614	70:12
68	1	x4673	
	2	x4672	71:22
69	1	x4826	71:16
	2	x4609	71:15
70	1	x4373	
	2	x5032	72:2
	3	x4378	
	4	x4283*a*	
	5	x4897	
	6	x4515	73:3
	7	x4376	
	8	x4677	
	9	x4771	76:5
74	1	x5121	
	2	x5122	
	3	x4906	13:6
80–81	1	x4910	13:2
	2	x4913	13:7
	3	x4909	13:3
92	1	x4031	
	2	x5112	
	3	x4176	50:4
	4	x3878	
	5	x4109	49:11
	6	x5114	
	7	x4172	48:12
	8	x3904	49:9
	9	x4057	49:6
93	1	x4024	52:6
	2	x4281*a*	
	3	x3874	
94	1	x4087	
	2	x4037	
	3	x3946	
	4	x4152	
	5	x4077	
	6	x4089	
	7	x4047	
	8	x4275	
	9	x4046	
	10	x4119	
	11	x3917	
	12	x4041	
	13	x4074	
	14	x3966	
	15	x4138	
	16	x3896*a*	
95		x5126	
96	1	x5080	
	2	x5081	
	3	x5085	

Figure	Serial No.	Field No.	Plate Reference
	4	x4019	
	5	x4914	
	6	x3962	67:8
	7	x4209	
	8	x5086	
	9	x5084	
97	1	x4211	
	2	x4022	
	3	x4111	
	4	x4180	
	5	x4112	
	6	x4212	
98	1	x5089	
	2	x5079	
	3	x4110	69:9
	4	x3903	
	5	x4168	
	6	x4167	
99	1	x4023	
	2	x3881	
	3	x3880	71:25
	4	x4020	
	5	x4127	
100	1	x4027	
	2–3	x4171	
	4	x3932	
	5	x3961	
	6–9	x4916	
	10	x4006	
	11	x4029	
	12	x4005	
	13	x3960	
	14	x4177	
	15	x3877	
101	1	x3900	
	2	x4000	
	3	x3958	
	4	x3930	
	5	x4216	
	6	x4130	
	7	x3872	
102		x4030	71:14
103	1	x3898*b*	
	2	x4169	
	3	x4175	74:19
	4	x3957	76:9
	5	x4915	
104		x3879	78:9
106	1	K107	13:4
	2	K111	
	3	K109	13:8
114	1	K108	
	2	K110	13:9
118	1	K159	
	2	K160	48:7
	3	K161	48:9
	4	K158	49:4
119	1	K184	
	2	K185	
	3	K186	
	4	K196	
	5	K189	
	6	K188	
	7	K190	
	8	K197	
	9	K192	
	10	K193	
	11	K191	
	12	K194	
	13	K195	
120	1	K122	67:5
	2	K98	
	3	K154	68:14
	4	K155	
	5	K156	
	6	K162	
132	1	K169	
	2	K166	
	3	K171	
133	1	K198	
	2	K199	
	3	K200	
	4	K201	
	5	K202	
	6	K203	
	7	K204	
	8	K205	
	9	K206	
	10	K207	
	11	K208	
	12	K209	
134	1	K125	
	2	K101	
	3	K102	
	4	K172	
	5	K124	69:1
	6	K91	
	7	K103	
135	1	K104	72:4
	2	K90	72:14
143	1	K33	19:2
	2	K117	19:1
144	1	K88	
	2	K116	19:8

Figure	Serial No.	Field No.	Plate Reference
	3	K85	19:9
	4	K86	19:7
	5	K118	19:6
	6	K112	19:3
	7	K113	
	8	K114	19:5
	9	K87	19:4
	10	K84	
	11	K115	19:10
	12	K82	
	13	K83	
	14	K81	
	15	K80	19:11
160	1	K175	48:2
	2	K176	48:10
	3	K177	
	4	K180	49:1
	5	K179	49:2
	6	K178	49:3
	7	K163	
	8	K97	51:10
	9	K96	51:14
	10	K36	
	11	K183	
	12	K17	50:1
	13	K32	50:2
	14	K31	50:3
	15	K181	
	16	K7*b*	
	17	K93*a*	49:26
	18	K20	49:7
	19	K182	
	20	K58	49:17
161	1	K42	
	2	K41	
	3	K28	
	4	K210	
	5	K211	
	6	K212	
	7	K213	
	8	K214	
	9	K215	
	10	K216	
	11	K217	
	12	K218	
	13	K219	
162	1	K135	
	2	K139	
	3	K132	
	4	K15	
	5	K140	67:3
	6	K53	67:7
	7	K134	
	8	K138	
	9	K137	
	10	K35	
	11	K141	
	12	K142	
	13	K121*b*	
	14	K131	
	15	K133	
163	1	K157	
	2	K38	
164	1	K10	
	2	K76	
	3	K74	
	4	K69	
	5	K34	68:11
165	1	K151	68:17
	2	K173	69:5
	3	K145	
	4	K147	69:6
	5	K149	
	6	K146	
	7	K148	
	8	K120	
	9	K150	
	10	K143	
166	1	K59	
	2	K60	
	3	K93*b*	
	4	K72	
	5	K24	
	6	K93*c*	
	7	K25	
	8	K7*a*	
	9	K23*a*	
	10	K16	
	11	K62	
	12	K26	
	13	K71	
	14	K22	70:13
	15	K66	
	16	K63	
	17	K57	
	18	K12	
	19	K21	
	20	K67	
	21	K54	71:3
167	1	K3	
	2	K4	
	3	K5	
	4	K47	
	5	K19	

Figure	Serial No.	Field No.	Plate Reference
	6	K6	
168	1	K79	
	2	K152	
	3	K89	75:1
	4	K52	
	5	K50	75:7
	6	K73	76:13
172	1	x4901	24:1
	2	x4902	26:8
175	1	e183	24:2
	2	e182	23:11
	3	x4923	23:1
	4	x4898	
184	1	x5119	48:11
	2	x3783	
	3	x3589	
	4	x3734	49:15
185	1	x3647	
	2	x3732	
	3	x3781	52:5
	4	x3777	53:12
	5	x3816	54:1
	6	x3685	52:1
	7	x3782	54:3
186	1	x3661	
	2	x3761	
	3	x3700	
	4	x3585	
	5	x3670	
	6	x3866	
	7	x3706	
	8	x3794	
	9	x3651	
	10	x3584	
187	1	x3774	
	2	x3837	
	3	x5090	
	4	x3817	
	5	x3729	
	6	x5092	
	7	x5091	67:13
188	1	x3695	
	2	x3769	
	3	x3687	
189	1	x3561	
	2	x3821	
	3	x5071	
	4	x3793	69:13
	5	x3767	
190	1	x3773	
	2	x3772	
	3	x3839	
	4	x4002	
	5	x3790	
	6	x3787	
	7	x3785	
	8	x3547	
	9	x3840	
	10	x3857	70:20
	11	x3546	71:8
191	1	x3726	
	2	x3683	
	3	x3820	
	4	x3819	
	5	x3776	
	6	x3775	
	7	x3612	
	8	x3792	
192	1	x3588	
	2	x3818	71:20
	3	x3784	71:19
193	1	x3780	
	2	x3733	
	3	x3684	
	4	x3779	74:2
	5	x3778	74:11
	6	x4002	
	7	x3727	76:7
	8	x3746	
	9	x3838	
	10	x3644	
194		x3686	78:8
203	1	x3354	
	2	D5	
	3	x3232	
	4	x3240	
	5	x3607	
	6	x3367	
	7	x3603	
	8	x3362	
	9	x3237	
	10	x3234	
	11	x2900:3	
	12	x3022	
207	1	x3359	
	2	x3361	
	3	x3458	
	4	x3018	
	5	x3017	26:9
	6	x3025	
	7	x3034	26:5
	8	x3230	26:6
	9	x2889	
	10	x3032	

Figure	Serial No.	Field No.	Plate Reference
	11	x3224	
	12	x3024	
216		x3033	32:13
219	1	x3028	29:2
	2	x2893	29:1
	3	x3605	29:4
222		D3	32:1
223	1	x3030	
	2	x2900:4	
	3	x3027	
	4	x3023	30:5
	5	x3231	
	6	x2892	30:2
	7	x3029	
	8	x2891	30:1
	9	x3228	
	10	x3229	
	11	x3031	30:3
228	1	x2900:1	26:1
	2	x3353	
	3	x3356	
	4	x3357	
234		x2895	33:9
235	1	x3249	
	2	x5118	
	3	x5116	
	4	x5117	48:3
	5	x3397	48:6
	6	x2817	48:8
	7	x2791	
	8	x2728	
	9	x2729	
	10	x2852	
	11	x2873	
	12	x3735	49:14
	13	x3516	
236	1	x2974	
	2	x2791	
237	1	x2813	51:12
	2	x2954	
	3	x3108	51:2
	4	x2876	51:3
	5	x3044	
	6	x3262	51:4
	7	x3122	51:5
	8	x3133	
	9	x3134	
	10	x3215	
	11	x3287	51:11
	12	x3310	
	13	x3412	51:13
238	1	x3057	49:20
	2	x2652	49:18
	3	x3382	
	4	x2927	49:19
	5	x3394	49:28
239	1	x2743	
	2	x3486	52:8
	3	x3404	
	4	x3531	
	5	x3098	52:7
	6	x3048	
	7	x2742	53:15
	8	x3275	
	9	x3415	53:5
	10	x3311	
	11	x2962	53:4
	12	x3316	
	13	x2961	52:13
	14	x3410	
240–45		x5105*A–F*	56–64
246	1	x3129	
	2	x2331	
	3	x3147	
	4	x3304	
	5	x3681	
	6	x3119	
	7	x3284	
	8	x3485	
	9	x2952	
	10	x3067	
	11	x3598	
	12	x3282	
	13	x2736*b*	
	14	x2854	
247	1	x3457	
	2	x3167	67:1
	3	x3315	
	4	x5101	
	5	x5102	
248	1	x2752	
	2	x3008	
	3	x3447	
	4	x3286	
249	1	x2340	69:12
	2	x3448	69:11
	3	x3398	
	4	x3288	69:15
	5	x3191	
	6	x3348	
	7	x2819	
	8	x3342	
	9	x3349	
	10	x3131	69:2

Figure	Serial No.	Field No.	Plate Reference
	11	x3388	
	12	x2713	67:9
	13	x3182*b*	
250	1	x2314	
	2	x3110	68:1
	3	x3101	68:4
	4	x3125	68:2
	5	x3209	
	6	x3060	
	7	x2971	
	8	x3339	
	9	x3261	
	10	x3246	
251	1	x5100	
	2	x3247	
	3	x5099	
	4	x3468	
	5	x2741	
	6	x3041	
	7	x5156	
	8	x3446	
	9	x3682	
252	1	x3171	
	2	x3135	
	3	x3123	
	4	x3751	
	5	x3556	
	6	x3295	
	7	x3206	
	8	x3393	
	9	x3184*b*	
	10	x2837	
	11	x3461	
	12	x3172	
	13	x3186	
	14	x3301	
	15	x2298	
	16	x3251	
	17	x3512	
	18	x3376	
	19	x3124	
	20	x3532	
	21	x3350	
	22	x3170	
	23	x3407	
	24	x3137	
	25	x3557	
	26	x3256	
	27	x3109	70:19
	28	x3483	
	29	x3205	
	30	x3622	71:2
	31	x3408	71:10
	32	x3309	71:12
	33	x3221	
	34	x3482	
	35	x2847	70:18
253	1	x3406	
	2	x3056	
	3	x3175	
	4	x3338	
	5	x3193	
	6	x3328	
	7	x3290	
	8	x3527	
	9	x2973	
	10	x3509	
	11	x3241	
	12	x3317	
	13	x3421	
254	1	x2792	
	2	x3274	
	3	x3318	
	4	x3391	
	5	x3116	
255	1	x3184*a*	71:13
	2	x3375	71:18
	3	x3188	
256	1	x3529	
	2	x3298	
	3	x3000	
	4	x3254	
	5	x2857	74:1
	6	x3378	
	7	x3396	
	8	x3445	
	9	x3459	74:14
	10	x2664	74:12
	11	x3558	74:15
	12	x2877	74:10
	13	x2918	
257		x3061	77:5
258	1	x3449	78:1
	2	x2882	78:3
271	1	x2884	26:4
	2	x2552	26:2
	3	T3835	
	4	x2566	
	5	T3749	
276		x2430	30:7
280		x2597	26:7
282	1	D11	33:2
	2	x2887	33:1
	3	x2560	

Figure	Serial No.	Field No.	Plate Reference
	4	x2896+2541	
	5	x2551	33:8
	6	x2567	
	7	x2554	
	8	T3831	33:5
	9	x2593	
	10	D14	
	11	x2545	
	12	x2543	37:1
	13	D1	37:11
287	1	x2032	38:1
	2	T3829	38:2
289	1	x2902	
	2	x818	
	3	x663	51:7
	4	x2274	51:9
	5	x2478	49:16
290	1	x2602	
	2	T3816	
	3	x2375	
	4	D67	
	5	x2503	
	6	x2115	
	7	x5168	
	8	x2313	
	9	x5166	
	10	x716	
	11	x385	
	12	x5167	
	13	x5169	
	14	x5170	
291 *B*	1	T3816	
	2	x2115	
	3	x5167	
292	1	x2276	
	2	x2540	
	3	x2485*a*	
	4	x3590*b*	
	5	x2691	
	6	x2620	
	7	x2659	
	8	x2977	
	9	x2192	52:15
	10	x2082	
	11	x2021	
	12	x2470	
	13	x2493*a*	53:13
	14	x2376	53:8
	15	x2526	
	16	x2710	53:6
	17	x2604	70:1
293	1	x5067	55:4
	2	x5068	55:2
	3	x5065	55:1
	4	x5066	55:3
294	1	x2480	
	2	x2494	
	3	x2465	
	4	x2118	
	5	x5139	
	6	x5147	
	7	x2718	
	8	T3824	
295	1	x5104	
	2	x3590*a*	
	3	x5103	
	4	x2677	68:6
	5	x2626	
296	1	x2027	
	2–3	x2604	
	4	x2528	
	5	x2604	
	6	x2634	
	7	x2604	
	8	x2139	
	9–10	x2604	
	11	x2391	
	12–13	x2604	
	14	x2023	
	15	x2484	
	16	x5155	
	17	x1868	
	18	x2471	
	19	x2638	71:6
	20	x2799	
	21	x2490	
297	1	x2657	
	2	x2637	
	3	x1255	
	4	x2389	
	5	x2502	
	6	x2390	
298		x2625	
299	1	x2680	
	2	x2491	
	3	T3823	
	4	T3736	
	5	x2679	
	6	x2492	74:18
	7	x2621	
	8	x2516	75:9
	9	x2624	76:12
	10	x2707	
300		x2603	

Figure	Serial No.	Field No.	Plate Reference
301	1	T3821*b*	
	2	x2604	
	3	T3822	78:12
305	1	b2770	33:7
	2	T1218	34:1
	3	T3733	33:6
	4	T3723	34:5
	5	b2909	
	6	b2771	
	7	x2589	
	8	T3721	
	9	T1223	
	10	T3730	34:4
306	1	T3727	34:3
	2	T1220	
	3	T3726	34:2
	4	T3729	
309	1	T3685	
	2	b2901	
	3	T3690	39:2
	4	b2900	
	5	T3720	
311	1	T1217	
	2	T3683	
	3	T3696	38:3
	4	b2695	
314	1	T3686	
	2	T3684	
	3	e174	
	4	e179	
	5	T3717	
	6	b2809	
	7	T3695	
	8	b2813	
	9	b2907	
	10	b2908	
315	1	b2772	40:10
	2	T3719	
	3	T3716	40:7
	4	T3714	
	5	T1221	
	6	T1222	
	7	e172	
318	1	T3715	43:7
	2	T3682	43:1
	3	T3681	
	4	e178	
	5	e171	43:8
322		b2708	
323	1	T3699	51:8
	2	T3819	50:13
	3	T3616	50:5
	4	T3841	
324	1	T3608	52:3
	2	T3628	
	3	T3602	52:2
	4	T3617	52:4
	5	T3703	53:11
	6	T3627	53:14
	7	T3709	52:11
325	1	T3846	
	2	T3849	
	3	T3845	
	4	T3847	
	5	T3848	
326	1	T3603	
	2	b2716	68:12
	3–5	b2651	
	6	x759	
	7	x624	
327		b2741	
328	1	T3704	
	2	x5093	
329	1	b2651	
	2	b2651	78:4
	3	T3626	78:5
	4	T3615	78:7
	5	T3629	78:6
333	1	T3784	39:7
	2	T3421	
	3	T3422	
	4	T3803	
	5	T3471	
	6	T3802	39:8
	7	T3419	
	8	T3545	
	9	T3427	
	10	T3423	
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	3	x983	
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374	1	D40	
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	3	D59	
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	3	D51	
	4	D56	
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	6	x5021	
	7	z751	
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	10	b258	
	11	x2222	
380	1	x19	
	2	e310	
	3	z125	
	4	y269	
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	4	T3837	
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	25	x3880	99:3
72	1	x5001	38:1
	2	x5032	70:2
	3	x1914	
	4	K104	135:1
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	6	x3307	
	7	x3168	
	8	x4284*a*	
	9	x4961	
	10	x2475	
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	12	x5004	
	13	x5051	
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	16	x4598	
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	8	x4964	
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	12	x1450	
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	6	x3443	
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	9	x2515	
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	3	x3901	
	4	x4215	
	5	x4173	
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	11	x4948	
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	19	x2730*a*	

INDEX OF FIELD NUMBERS

THIS index lists all objects treated in the present volume. For those which are not illustrated, the reference is in most cases to the illustration of the type and/or the page where the type is described. The abbreviations in the "Gross Category" column represent the following: B = worked bone and horn, F = flaked stone (i.e., flint and obsidian tools), M = metal, Na = nonartifactual, Po = baked clay (other than pottery), Pv = pottery, S = ground stone, U = fayence, glass, and shell. In the phase column "1 M.R." and "2 M.R." stand for the First and the Second Mixed Range, respectively.

CHATAL HÜYÜK

Field No.	Gross Category	Findspot	Phase of Findspot	References
a270	S	W 14 I 3	O	Fig. 381:7 (pp. 490, 494)
a2385	S	purchased	?	Fig. 379:8 (pp. 483 f., 493)
b29	S	N12, 1.5 m. below surf.	?	Fig. 380:10 (pp. 487, 493)
b41	S	N 12 II 1 or 2	O	Fig. 382:5 (pp. 492, 494)
b42	S	N 12 II 1 or 2	O	Fig. 382:1 (pp. 488, 490, 494)
b258	S	P 4, dump	?	Fig. 379:10 (pp. 484, 493)
b397	S	P 12, unstrat.	?	Fig. 381:6 (pp. 490, 494)
b2581	Po	W 16:4	I	p. 419, n. 10
b2622	Na	W 16:4	I	p. 428
b2651	S, U	W 16:4	I	e.g. Figs. 326:3–5, 329:1–2, Pl. 78:4 (pp. 394, 424–28)
b2660	Na	W 16:4	I	p. 428
b2661	S	W 16:4	I	Pl. 69:10 (pp. 424, 426)
b2695	Pv	V 16, lower fl.	I	Fig. 311:4 (p. 406)
b2699	Pv	W 16:2	2 M.R.	Fig. 361:6 (p. 460)
b2701	Pv	W 16:4	I	cf. Fig. 315:4 (p. 412)
b2702	Pv	V 16, lower fl.	2 M.R.	Fig. 364:4 (pp. 414, n. 6, 463)
b2708	Pv	W 16:4	I	Fig. 322 (pp. 408, n. 4, 417 f.)
b2716	S	W 16:4	I	Fig. 326:2, Pl. 68:12 (pp. 424, 426)
b2741	S	V 16, lower fl.	I	Fig. 327 (pp. 425, 426, 428)
b2770	Pv	W 16:4	I	Fig. 305:1, Pl. 33:7 (p. 399)
b2771	Pv	W 16:4	I	Fig. 305:6 (p. 399)
b2772	Pv	W 16:4	I	Fig. 315:1, Pl. 40:10 (p. 410)
b2773	Pv	W 16:4	I	cf. Fig. 315:3 (p. 410)
b2809	Pv	W 16:4	I	Fig. 314:6 (p. 408)
b2812	Pv	W 16:4	I	cf. Fig. 314:6 (p. 406)
b2813	Pv	V 16, lower fl.	I	Fig. 314:8 (p. 408)
b2848	Pv	V 16, lower fl.	I	cf. Fig. 314:9 (p. 410)
b2849	Pv	V 16, lower fl.	I	cf. Fig. 361:7 (p. 410)
b2899	Pv	V 16, lower fl.	I	cf. Fig. 314:8 (p. 408)
b2900	Pv	V 16, lower fl.	I	Fig. 309:4 (p. 405)
b2901	Pv	V 16, lower fl.	I	Fig. 309:2 (p. 405)
b2902	Pv	W 16:4	I	cf. Fig. 282:2 (p. 399)
b2903	Pv	W 16:4	I	cf. Fig. 338:19 (p. 408)
b2904–5	Pv	W 16:2	2 M.R.	cf. Fig. 305:1
b2906	Pv	V 16, lower fl.	I	cf. Fig. 309:4 (p. 405)
b2907	Pv	V 16, lower fl.	I	Fig. 314:9 (p. 410)
b2908	Pv	V 16, lower fl.	I	Fig. 314:10 (p. 410)
b2909	Pv	V 16, lower fl.	I	Fig. 305:5 (pp. 399, 428)

Field No.	Gross Category	Findspot	Phase of Findspot	References
e169	Pv	W 16:3/1	I	cf. Fig. 315:7 (pp. 412, 428)
e170	Pv	W 16:3/1	I	cf. Fig. 338:19 (pp. 408, 428)
e171	Pv	W 16:3/1	I	Fig. 318:5, Pl. 43:8 (pp. 414, 428, 446)
e172	Pv	W 16:3/1	I	Fig. 315:7 (pp. 412, 428)
e173	Pv	W 16:3/1	I	cf. Fig. 315:4 (pp. 410, 428)
e174	Pv	W 16:3/1	I	Fig. 314:3 (pp. 408, 428)
e175	Pv	W 16:3/1	I	cf. Fig. 337:13 (pp. 410, 428)
e176–77	Pv	W 16:3/1	I	cf. Fig. 314:5 (pp. 408, 428)
e178	Pv	W 16:3/1	I	Fig. 318:4 (pp. 410, 428)
e179	Pv	W 16:4	I	Fig. 314:4 (p. 408)
e180	Pv	W 16:4	I	cf. Fig. 305:2 (p. 399)
e181	Pv	W 16:6	F	cf. Fig. 305:1 (p. 361)
e182	Pv	W 16:6	F	Fig. 175:2, Pl. 23:11 (p. 242)
e183	Pv	W 16:6	F	Fig. 175:1, Pl. 24:2 (p. 234, n. 10)
e184	Pv	W 16:6	F	cf. Fig. 175:1 (p. 234, n. 10)
e310	S	J 9 IVa 4	N	Fig. 380:2 (pp. 484, 493)

TELL DHAHAB

Field No.	Gross Category	Findspot	Phase of Object (on Typological Basis)	References
D1	Pv	TT 1, 1.5–2 m.	H	Fig. 282:13, Pl. 37:11 (p. 364)
D2	Pv	TT 1, 1–1.5 m.	H	cf. Fig. 282:13 (p. 364)
D3	Pv	TT 1, 1–1.5 m.	G or H	Fig. 222, Pl. 32:1 (pp. 281, 350 f., n. 2)
D4	Pv	TT 1, 1.5–2 m.	G or H	cf. Fig. 207:5 (p. 270)
D5	Pv	TT 1, 0.5–1 m.	G or H	Fig. 203:2 (pp. 265, 350 f., n. 2)
D7	Pv	TT 1, 1–1.5 m.	H	cf. Fig. 282:5 (p. 364)
D8	Pv	TT 1, 1.5–2 m.	H	cf. Fig. 282:3 (p. 361)
D9–10	Pv	TT 1, 1–1.5 m.	H	cf. Fig. 282:3 (p. 361)
D11	Pv	TT 1, surf.–0.5 m.	H	Fig. 282:1, Pl. 33:2 (p. 364)
D12	Pv	TT 1, 0.5–1 m.	H	cf. Fig. 282:5 (p. 364)
D13	Pv	TT 1, 2 m. (pit)	H	cf. Fig. 282:8 (p. 364)
D14	Pv	TT 1, surf.–0.5 m.	H	Fig. 282:10 (pp. 364, 368)
D15	Po	TT 1, surf.–0.5 m.	H	Fig. 369:1, Pl. 50:14 (p. 466)
D16*a*	S	TT 1, surf.–0.5 m.	A	Fig. 36:7 (pp. 62, 65, 458)
D19	F	TT 1, surf.–0.5 m.	A	Fig. 374:5 (pp. 416)
D23	F	TT 1, 1–2 m.	A	Fig. 374:6 (p. 476)
D25	F	TT 1, 0.5–1 m.	G	Fig. 374:2 (pp. 476, 478)
D28	Po	TT 1, 0.5–1 m.	G or H	Fig. 368:3, Pl. 51:1 (p. 466)
D31	B	TT 1, 1–1.5 m.	G	Fig. 384:4, Pl. 74:7 (pp. 494, 496)
D32	B	TT 1, 2–2.5 m.	F, G, or H	Fig. 384:10, Pl. 76:8 (pp. 494, 496)
D36	F	T.C., 0.5–1 m.	G	Fig. 374:8 (pp. 476, 478)
D39*a*	S	T.C., 0.5–1 m.	A	Fig. 36:6, Pl. 70:8 (pp. 62, 65, 458)
D40	F	TT 1, 4–5 m.	A	Fig. 374:1 (pp. 55, 476)
D41	F	TT 1, 4–5 m.	A	Fig. 374:10 (pp. 55, 476)
D43	B	TT 1, 4–5 m.	?	Fig. 384:9, Pl. 76:11 (pp. 494, 496)
D44	S	TT 1, 2 m. (pit)	A	Fig. 379:5 (pp. 484, 493)
D47	F	TT 2:1	A	Fig. 374:4 (p. 476)
D50	S	TT 1, tunnel	F, G, or H	Fig. 380:8 (pp. 487, 493)
D51	S	TT 1, 3–5 m.	?	Fig. 375:3 (pp. 478 f., 492)
D52	S	TT 1, 5–6.5 m.	F, G, or H	Fig. 375:2 (pp. 478 f., 492)
D53	B	?	A	Fig. 384:1 (p. 494)
D54	B	?	F or G	Fig. 384:2 (p. 494)
D56	S	TT 1, 5 m.	?	Fig. 375:4 (pp. 478 f., 492)
D57	S	?	?	Fig. 375:6 (pp. 478 f., 492)
D58	S	?	?	Fig. 377:7 (pp. 482, 493)

Field No.	Gross Category	Findspot	Phase of Object (on Typological Basis)	References
D59	F	?	A	Fig. 374:3 (p. 476)
D60	F	?	G	Fig. 374:7 (pp. 476, 478)
D61	F	surf.	G	Fig. 374:9 (pp. 476, 478)
D62	F	?	A	Fig. 374:11 (pp. 55, 476)
D63	F	unstrat.	H	Pl. 65:16 (p. 478)
D64	F	unstrat.	G	Pl. 65:14 (p. 478)
D65	F	unstrat.	G	Pl. 65:15 (p. 478)
D66	F	unstrat.	?	Pl. 65:12 (p. 476)
D67	Po	TT 1, 1–2 m.	H	Fig. 290:4 (pp. 372–73)
D68	Po	TT 1, 3 m.	F?	pp. 125, 470

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Field No.	Gross Category	Findspot	Phase of Findspot	References
K1	S	I, surf.–0.5 m.	E	p. 214, n. 13
K2	Po	I, surf.–0.5 m.	E	cf. Fig. 160:8–9 (p. 204)
K3	S	I, surf.–0.5 m.	E	Fig. 167:1 (pp. 220–23)
K4	S	I, 0.5–1 m.	E	Fig. 167:2 (pp. 220–23)
K5	S	I, 0.5–1 m.	E	Fig. 167:3 (pp. 220–23)
K6	S	I, 0.5–1 m.	E	Fig. 167:6 (pp. 220–22, 224)
K7*a*	S	I, 0.5–1 m.	E	Fig. 166:8 (pp. 220, 223)
K7*b*	Po	I, 0.5–1 m.	E	Fig. 160:16 (p. 204)
K8*a*	Po	I, 1–1.5 m.	E	Pl. 49:24 (p. 204)
K8*b*	S	I, 1–1.5 m.	E	pp. 220, 223
K9	S	I, 1–1.5 m.	E	pp. 217, 222
K10	S	I, 1–1.5 m.	E	Fig. 164:1 (pp. 216, 222)
K11	Po	I, 1–1.5 m.	E	p. 204, n. 10
K12	S	I, 1–1.5 m.	E	Fig. 166:18 (pp. 220, 223)
K13	S	I, surf.–0.5 m.	E	p. 218, n. 15
K14	B	I, 1–1.5 m.	E	Pl. 75:2 (p. 225)
K15	S	I, 1–1.5 m.	E	Fig. 162:4 (pp. 214, 222)
K16	S	I, 1–1.5 m.	E	Fig. 166:10 (pp. 220, 223)
K17	Po	I, 1–1.5 m.	E	Fig. 160:12, Pl. 50:1 (p. 204)
K18	Po	I, 1–1.5 m.	E	p. 204, n. 10
K19	S	I, 1.5–2 m.	E	Fig. 167:5 (pp. 220–22, 224)
K20	Po	I, 1.5–2 m.	E	Fig. 160:18, Pl. 49:7 (p. 204)
K21	F	I, 1.5–2 m.	E	Fig. 166:19 (pp. 220, 223)
K22	S	I, 1.5–2 m.	E	Fig. 166:14, Pl. 70:13 (pp. 220, 223)
K23*a*	S	I, 1.5–2 m.	E	Fig. 166:9 (pp. 220, 223)
K23*b*	S	I, 1.5–2 m.	E	pp. 220, 223
K24	S	I, 1.5–2 m.	E	Fig. 166:5 (pp. 220, 223)
K25	S	I, 1.5–2 m.	E	Fig. 166:7 (pp. 220, 223)
K26	S	I, 1.5–2 m.	E	Fig. 166:12 (pp. 220, 223)
K27*a*	S	I, 2–2.5 m.	E	cf. Fig. 166:6 (pp. 220, 223)
K27*c*	S	I, 2–2.5 m.	E	cf. Fig. 166:9 (pp. 220, 223)
K28	F	I, 2–2.5 m.	E	Fig. 161:3 (p. 210)
K29	S	I, 2–2.5 m.	E	cf. Fig. 166:14 (pp. 220, 223)
K30	Po	I, 2–2.5 m.	E	p. 204, n. 10
K31	Po	I, 2–2.5 m.	E	Fig. 160:14, Pl. 50:3 (p. 204)
K32	Po	I, 2–2.5 m.	E	Fig. 160:13, Pl. 50:2 (p. 204)
K33	Pv	I, 2–2.5 m.	E	Fig. 143:1, Pl. 19:2 (p. 181)
K34	S	I, 2.5–3 m.	E	Fig. 164:5, Pl. 68:11 (pp. 217, 222)
K35	S	I, 2.5–3 m.	E	Fig. 162:10 (pp. 215, 222)
K36	Po	I, 2.5–3 m.	E	Fig. 160:10 (p. 204)
K37	S	I, 1.5–2 m.	E	cf. Fig. 166:4 (pp. 220, 223)
K38	S	I, 1.5–2 m.	E	Fig. 163:2 (pp. 216, 222)

Field No.	Gross Category	Findspot	Phase of Findspot	References
K39	S	I, 2.5–3 m.	E	cf. Fig. 166:4 (pp. 220, 223)
K40	Po	I, 2.5–3 m.	E	p. 204, n. 10
K41	F	I, 2.5–3 m.	E	Fig. 161:2 (p. 207)
K42	F	I, 2.5–3 m.	E	Fig. 161:1 (p. 207)
K43	Po	I, 3–3.5 m.	E	p. 204, n. 10
K44	S	I, 3–3.5 m.	E	cf. Fig. 166:4 (pp. 220, 223)
K45	S	I, 3–3.5 m.	E	cf. Fig. 166:1 (pp. 220, 223)
K46	B	I, 3–3.5 m.	E	Pl. 72:17 (p. 224)
K47	S	II, 1–1.5 m.	E	Fig. 167:4 (pp. 220–22, 224)
K50	B	II, 1–1.5 m.	E	Fig. 168:5, Pl. 75:7 (p. 225)
K51	Po	II, 1–1.5 m.	E	p. 204, n. 10
K52	B	II, 1.5–2 m.	E	Fig. 168:4 (p. 225)
K53	S	II, 0.5–1 m.	E	Fig. 162:6, Pl. 67:7 (pp. 205, 222)
K54	S	I, 2 m.	E	Fig. 166:21, Pl. 71:3 (pp. 220, 223)
K55	B	I, 3.5 m. (pit)	E	p. 224
K56	S	I, 3.5 m. (pit)	E	p. 214, n. 13
K57	S	I, 3.5 m. (pit)	E	Fig. 166:17 (pp. 220, 223)
K58	Po	I, 3.5 m. (pit)	E	Fig. 160:20, Pl. 49:17 (p. 204)
K59	S	II, 2–2.5 m.	E	Fig. 166:1 (pp. 220, 223)
K60	S	II, 2–2.5 m.	E	Fig. 166:2 (pp. 220, 223)
K61	S	II, 2–2.5 m.	E	cf. Fig. 166:14 (pp. 220, 223)
K62	S	III, surf.–0.5 m.	E	Fig. 166:11 (pp. 220, 223)
K63	S	III, surf.–0.5 m.	E	Fig. 166:16 (pp. 220, 223)
K64	Po	III, surf.–0.5 m.	E	Pl. 51:6 (p. 204)
K65	S	I, 3.5–4 m.	E	cf. Fig. 166:6 (pp. 220, 223)
K66	S	I, 3.5–4 m.	E	Fig. 166:15 (pp. 220, 223)
K67	S	I, 3.5–4 m.	E	Fig. 166:20 (pp. 220, 223)
K68	B	I, 3.5–4 m.	E	cf. Fig. 168:1 (p. 224)
K69	S	I, 3.5–4 m.	E	Fig. 164:4 (pp. 216 f., 222)
K70	F	I, 3.5–4 m.	E	p. 207
K71	S	I, 4–4.5 m.	E	Fig. 166:13 (pp. 220, 223)
K72	S	I, 4–4.5 m.	E	Fig. 166:4 (pp. 220, 223)
K73	B	I, 4–4.5 m.	E	Fig. 168:6, Pl. 76:13 (p. 225)
K74	S	III, 1–1.5 m.	E	Fig. 164:3 (pp. 216, 222)
K75	S	III, 1–1.5 m.	E	pp. 216 f., 222
K76	S	I, 4.5–5 m.	E	Fig. 164:2 (pp. 216)
K77–78	B	I, 4.5–5 m.	E	cf. Fig. 168:1 (p. 224)
K79	B	I, 4.5–5 m.	E	Fig. 168:1 (p. 224)
K80	Pv	I, surf.–0.5 m.	E	Fig. 144:15, Pl. 19:11 (pp. 186, 188)
K81	Pv	I, surf.–0.5 m.	E	Fig. 144:14 (p. 186)
K82	Pv	I, 1–1.5 m.	E	Fig. 144:12 (pp. 186, 188)
K83	Pv	I, 1.5–2 m.	E	Fig. 144:13 (pp. 186, 188)
K84	Pv	I, 2.5–3 m.	E	Fig. 144:10 (pp. 185, 188)
K85	Pv	I, 1–1.5 m.	E	Fig. 144:3, Pl. 19:9 (p. 185)
K86	Pv	III, 0.5–1 m.	E	Fig. 144:4, Pl. 19:7 (p. 185)
K87	Pv	II, 2–2.5 m.	E	Fig. 144:9, Pl. 19:4 (p. 185)
K88	Pv	I, 2.5–3 m.	E	Fig. 144:1 (p. 184)
K89	B	III, 1–1.5 m.	E	Fig. 168:3, Pl. 75:1 (p. 225)
K90	B	I, 6–6.5 m.	D	Fig. 135:2, Pl. 72:14 (p. 173)
K91	S	I, 6–6.5 m.	D	Fig. 134:6 (pp. 172–73)
K92	S	III, 1 m. (pit)	E	p. 220
K93*a*	Po	III, 1 m. (pit)	E	Fig. 160:17, Pl. 49:26 (p. 204)
K93*b*	S	III, 1 m. (pit)	E	Fig. 166:3 (pp. 220, 223)
K93*c*	S	III, 1 m. (pit)	E	Fig. 166:6 (pp. 220, 223)
K94	Po	III, 1 m. (pit)	E	p. 204, n. 10
K95	S	IV, 1–1.5 m.	C	p. 154, n. 8

Field No.	Gross Category	Findspot	Phase of Findspot	References
K96	Po	III, 1–1.5 m.	E	Fig. 160:9, Pl. 51:14 (p. 204)
K97	Po	III, 1–1.5 m.	E	Fig. 160:8, Pl. 51:10 (p. 204)
K98	S	IV, 0.5–1 m.	C	Fig. 120:2 (p. 154)
K100	Na	I, 5 m.	D	p. 174
K101	S	I, 7.5–8 m.	D	Fig. 134:2 (pp. 171, 173)
K102	S	I, 7.5–8 m.	D	Fig. 134:3 (pp. 171, 173)
K103	S	I, 7.5–8 m.	D	Fig. 134:7 (pp. 172–73)
K104	B	I, 7.5–8 m.	D	Fig. 135:1, Pl. 72:4 (p. 173)
K105–6	Po	I, 7.5–8 m.	D	p. 168, n. 6
K107	Pv	IV, 0.5–1 m.	C	Fig. 106:1, Pl. 13:4 (pp. 139, 141)
K108	Pv	IV, 0.5–1 m.	C	Fig. 114:1 (p. 144)
K109	Pv	IV, 1–1.5 m.	C	Fig. 106:3, Pl. 13:8 (pp. 140–41)
K110	Pv	IV, 1–1.5 m.	C	Fig. 114:2, Pl. 13:9 (p. 144)
K111	Pv	IV, 0.5–1 m.	C	Fig. 106:2 (p. 140)
K112	Pv	IV, surf.–0.5 m.	?	Fig. 144:6, Pl. 19:3 (p. 185)
K113	Pv	IV, surf.–0.5 m.	?	Fig. 144:7 (p. 185)
K114	Pv	IV, surf.–0.5 m.	?	Fig. 144:8, Pl. 19:5 (p. 185)
K115	Pv	IV, surf.–0.5 m.	?	Fig. 144:11, Pl. 19:10 (pp. 185, 188)
K116	Pv	IV, surf.–0.5 m.	?	Fig. 144:2, Pl. 19:8 (p. 184)
K117	Pv	IV, surf.–0.5 m.	?	Fig. 143:2, Pl. 19:1 (p. 181)
K118	Pv	III, 1–1.5 m.	E	Fig. 144:5, Pl. 19:6 (p. 185)
K119	B	I, 3.5 m.	E	Pl. 73:9 (p. 225)
K120	S	I, surf.–0.5 m.	E	Fig. 165:8 (pp. 218, 223)
K121*a*	S	III, 1.5 m.	E	pp. 218, 223
K121*b*	S	IV, surf.–0.5 m.	?	Fig. 162:13 (pp. 154, n. 8, 215 f., 222)
K122	S	IV, 1.5 m.	C	Fig. 120:1, Pl. 67:5 (p. 154)
K123	S	IV, 2–2.5 m.	C	p. 154
K124	S	I, 5 m.	D	Fig. 134:5, Pl. 69:1 (pp. 171, 173)
K125	S	I, 7–7.5 m.	D	Fig. 134:1 (pp. 171–72)
K126	S	I, 5 m.	D	pp. 172–73
K127	S	II, 2.5 m.	E	pp. 220, 223
K128	S	II, 0.5–1 m.	E	pp. 218, 223
K129	S	I, 2.5 m.	E	p. 216, n. 14
K131	S	surf.	?	Fig. 162:14 (pp. 216, 222)
K132	S	I, 2.5 m.	E	Fig. 162:3 (pp. 214, 222)
K133	S	I, surf.	?	Fig. 162:15 (pp. 215, 222)
K134	S	I, 2–2.5 m.	E	Fig. 162:7 (pp. 215, 222)
K135	S	I, 1.5–2 m.	E	Fig. 162:1 (pp. 214, 222)
K137	S	I, 2 m.	E	Fig. 162:9 (pp. 215, 222)
K138	S	I, surf.–0.5 m.	E	Fig. 162:8 (pp. 215, 222)
K139	S	III, 1 m. (pit)	E	Fig. 162:2 (pp. 215, 222)
K140	S	I, 0.5–1 m.	E	Fig. 162:5, Pl. 67:3 (pp. 215, 222)
K141	S	I, 1 m.	E	Fig. 162:11 (pp. 215, 222)
K142	S	I, 0.5–1 m.	E	Fig. 162:12 (pp. 215, 222)
K143	S	I, 4 m.	E	Fig. 165:10 (pp. 218, 223)
K144	S	I, 1.5 m.	E	cf. Fig. 165:2 (pp. 218, 222)
K145	S	III, 1.5 m.	E	Fig. 165:3 (pp. 218, 222)
K146	S	II, 1.5 m.	E	Fig. 165:6 (pp. 218, 223)
K147	S	I, surf.–0.5 m.	E	Fig. 165:4, Pl. 69:6 (pp. 218, 222)
K148	S	III, 1.5 m.	E	Fig. 165:7 (pp. 218, 223)
K149	S	III, 1.5 m.	E	Fig. 165:5 (pp. 218, 223)
K150	S	I, 0.5–1 m.	E	Fig. 165:9 (pp. 218, 223)
K151	S	II, 2–2.5 m.	E	Fig. 165:1, Pl. 68:17 (pp. 218, 222)
K152	B	I, 1.5–2 m.	E	Fig. 168:2 (p. 224)
K153	B	I, 2–2.5 m.	E	Pl. 73:5 (pp. 224–25)
K154	S	IV, 1.5 m.	C	Fig. 120:3, Pl. 68:14 (p. 154)

Field No.	Gross Category	Findspot	Phase of Findspot	References
K155	S	IV, 1 m.	C	Fig. 120:4 (pp. 154, 156)
K156	S	IV, 1.5 m.	C	Fig. 120:5 (pp. 154, 156)
K157	S	I, surf.–0.5 m.	E	Fig. 163:1 (pp. 216, 222)
K158	Po	IV, 1.5 m.	C	Fig. 118:4, Pl. 49:4 (p. 150)
K159	Po	I, 10.5–11 m.	C	Fig. 118:1 (p. 150)
K160	Po	IV, 1.5 m.	C	Fig. 118:2, Pl. 48:7 (p. 150)
K161	Po	IV, 1 m.	C	Fig. 118:3, Pl. 48:9 (p. 150)
K162	S	I, 10.5 m.	C	Fig. 120:6 (pp. 154, 156)
K163	Po	I, 4–5 m.	E	Fig. 160:7 (p. 204)
K164–65	Po	I, 4–5 m.	E	cf. Fig. 160:5 (p. 204)
K166	Po	I, 5 m.	D	Fig. 132:2 (p. 168)
K167	Po	I, 4–5 m.	E	cf. Fig. 160:4 (p. 204)
K168	Po	I, 8 m.	D	cf. Fig. 132:1 (p. 168)
K169	Po	I, 6 m.	D	Fig. 132:1 (p. 168)
K170	Po	I, 5 m.	D	cf. Fig. 132:1 (p. 168)
K171	Po	I, 6 m.	D	Fig. 132:3 (p. 168)
K172	S	I, 6–6.5 m.	D	Fig. 134:4 (pp. 171, 173)
K173	S	I, 0.5 m. (pit)	E	Fig. 165:2, Pl. 69:5 (pp. 218, 222)
K174	Po	I, 0.5–1 m.	E	cf. Fig. 160:1 (p. 204)
K175	Po	I, 2 m.	E	Fig. 160:1, Pl. 48:2 (p. 204)
K176	Po	I, 1.5 m.	E	Fig. 160:2, Pl. 48:10 (p. 204)
K177	Po	I, 2.5 m.	E	Fig. 160:3 (p. 204)
K178	Po	I, 1 m.	E	Fig. 160:6, Pl. 49:3 (p. 204)
K179	Po	I, 3.5 m.	E	Fig. 160:5, Pl. 49:2 (p. 204)
K180	Po	III, 0.5 m.	E	Fig. 160:4, Pl. 49:1 (p. 204)
K181	Po	III, 1.5 m.	E	Fig. 160:15 (p. 204)
K182	Po	III, 0.5 m.	E	Fig. 160:19 (p. 204)
K183	Po	I, 3.5 m.	E	Fig. 160:11 (p. 204)
K184	F	IV, 1.5 m.	C	Fig. 119:1 (pp. 150 f.)
K185	F	IV, 1.5 m.	C	Fig. 119:2 (pp. 150 f.)
K186	F	IV, 1 m.	C	Fig. 119:3 (pp. 150 f.)
K188	F	IV, 1.5 m.	C	Fig. 119:6 (pp. 150 f.)
K189	F	IV, 1.5 m.	C	Fig. 119:5 (pp. 150 f.)
K190	F	I, 10.5 m.	C	Fig. 119:7 (pp. 150 f.)
K191	F	IV, 1.5 m.	C	Fig. 119:11 (p. 151)
K192	F	IV, 1.5 m.	C	Fig. 119:9 (p. 152)
K193	F	IV, 1.5 m.	C	Fig. 119:10 (p. 152)
K194	F	IV, 1.5 m.	C	Fig. 119:12 (p. 152)
K195	F	IV, 1.5 m.	C	Fig. 119:13 (p. 152)
K196	F	IV, 1.5 m.	C	Fig. 119:4 (pp. 150 f.)
K197	F	IV, 1.5 m.	C	Fig. 119:8 (pp. 150 f.)
K198	F	I, 8 m.	D	Fig. 133:1 (pp. 168–69)
K199	F	I, 8 m.	D	Fig. 133:2 (pp. 168–69)
K200	F	I, 6 m.	D	Fig. 133:3 (pp. 168–69)
K201	F	I, 6 m.	D	Fig. 133:4 (pp. 168–69)
K202	F	I, 6 m.	D	Fig. 133:5 (pp. 168–69)
K203	F	I, 8 m.	D	Fig. 133:6 (p. 169)
K204	F	I, 6 m.	D	Fig. 133:7 (p. 169)
K205	F	I, 5 m.	D	Fig. 133:8 (p. 169)
K206	F	I, 5 m.	D	Fig. 133:9 (p. 171)
K207	F	I, 8 m.	D	Fig. 133:10 (p. 171)
K208	F	I, 5 m.	D	Fig. 133:11 (p. 171)
K209	F	I, 8 m.	D	Fig. 133:12 (p. 171)
K210	F	I, surf.–0.5 m.	E	Fig. 161:4 (p. 209)
K211	F	I, 2.5 m.	E	Fig. 161:5 (p. 208)
K212	F	I, 2 m.	E	Fig. 161:6 (p. 209)

Field No.	Gross Category	Findspot	Phase of Findspot	References
K213	F	I, 3.5 m.	E	Fig. 161:7 (p. 208)
K214	F	III, 1.5 m.	E	Fig. 161:8 (pp. 208 f.)
K215	F	I, surf.–0.5 m.	E	Fig. 161:9 (p. 208)
K216	F	I, 1.5 m.	E	Fig. 161:10 (pp. 209–10)
K217	F	I, surf.–0.5 m.	E	Fig. 161:11 (p. 211)
K218	F	I, 4 m.	E	Fig. 161:12 (p. 211)
K219	F*	I, 1 m.	E	Fig. 161:13 (pp. 212 f.)
K220	F	I, 4 m.	E	Pl. 65:11 (p. 214)
K221	F	I, 2.5 m.	E	Pl. 65:3 (p. 208)
K222	F	II, 2.5 m.	E	Pl. 65:4 (p. 208)
K223	F	III, 1.5 m.	E	Pl. 65:6 (p. 208)
K224	F	III, 0.5 m.	E	Pl. 65:5 (p. 208)
K225	F	II, 0.5 m.	E	Pl. 65:18 (p. 212)
			TELL TAʿYINAT	
T963	S	I Q 3	O	Fig. 380:5 (pp. 484, 493)
T1152	Po	T 1:6 fl.	I	p. 420
T1217	Pv	T 1:4	I	Fig. 311:1 (pp. 369, 406)
T1218	Pv	T 1:6	I	Fig. 305:2, Pl. 34:1 (p. 399)
T1219	Pv	T 1:6	I	cf. Fig. 305:1 (p. 399)
T1220	Pv	T 1:6	I	Fig. 306:2 (p. 400)
T1221	Pv	T 1:6	I	Fig. 315:5 (p. 410)
T1222	Pv	T 1:6	I	Fig. 315:6 (p. 410)
T1223	Pv	T 1:6	I	Fig. 305:9 (p. 399)
T2053	Pv	XVII	2 M.R.	Fig. 367:3 (p. 465)
T2174	S	XVII	2 M.R.	Fig. 382:2 (pp. 488, 490, 494)
T2926	S	XXV 3	O	Fig. 380:9 (pp. 487, 493)
T3001	Pv	XVII	2 M.R.	Fig. 361:10 (p. 460)
T3146	S	XIV	2 M.R.	Fig. 381:5 (pp. 488, 494)
T3172	F	XIV	2 M.R.	Fig. 372:1 (pp. 380, 472, 476, n. 10)
T3213	Pv	below XIII	2 M.R.	Fig. 367:2 (pp. 446, 465)
T3218	Pv	below XIII	2 M.R.	cf. Fig. 338:4
T3219	Pv	below XIII	2 M.R.	Fig. 362:7, Pl. 40:5 (pp. 440, 460)
T3232	Pv	XIV	2 M.R.	Fig. 362:9 (pp. 440, 460)
T3234	Pv	XIV	2 M.R.	cf. Fig. 338:3
T3249	Pv	below XIII	2 M.R.	Fig. 361:5 (pp. 413, 460)
T3259	Pv	XVII	2 M.R.	Fig. 361:8 (pp. 410, 460)
T3263	Pv	XIV	2 M.R.	cf. Fig. 345:5
T3313	F	T 13, surf.–1 m.	J	p. 456
T3315	S	T 13, surf.–1 m.	J	Fig. 354:1 (pp. 456–57)
T3339	S	T 13:1 fl.	J	Fig. 354:3, Pl. 70:11 (pp. 456–57)
T3340	M	T 13:1 fl.	J	Fig. 351:8, Pl. 52:9 (pp. 453, 455)
T3370	M	T 13:3 (pit)	J	Fig. 351:5, Pl. 52:12 (p. 455)
T3371	S	T 13:3 (pit)	J	Fig. 354:2 (pp. 456–57)
T3373	M	T 13:3	J	Fig. 351:2, Pl. 53:2 (pp. 453, 455)
T3374	M	T 13:3	J	Fig. 351:9, Pl. 52:10 (pp. 453, 455)
T3375	M	XIV	2 M.R.	Pl. 53:3 (p. 470)
T3376	M	XIV	2 M.R.	cf. Fig. 351:1 (p. 470)
T3377	M	XIV	2 M.R.	Fig. 371:2, Pl. 52:14 (p. 470)
T3396	Po	XIV	2 M.R.	Fig. 368:5, Pl. 50:6 (p. 466)
T3417	Pv	T 13, surf.–1 m.	J	cf. Fig. 338:10 (p. 440)
T3418	Pv	T 13:1 fl.	J	cf. Fig. 338:5 (p. 440)
T3419	Pv	T 13:1 fl.	J	Fig. 333:7 (p. 432)
T3420	Pv	T 13:1 fl.	J	Fig. 337:12 (p. 438)
T3421	Pv	T 13:2 (pit)	J	Fig. 333:2 (p. 432)

* Chalcedony.

Field No.	Gross Category	Findspot	Phase of Findspot	References
T3422	Pv	T 13, surf.–1 m.	J	Fig. 333:3 (p. 432)
T3423	Pv	T 13, surf.–1 m.	J	Fig. 333:10 (p. 432)
T3424	Pv	T 13:2 fl.	J	Fig. 337:7 (p. 435)
T3425	Pv	T 13:2 fl.	J	Fig. 337:4, Pl. 40:1 (p. 435)
T3426	Pv	T 13:2 fl.	J	Fig. 337:11 (pp. 435–36)
T3427	Pv	T 13:2 fl.	J	Fig. 333:9 (p. 432)
T3428	Pv	T 13:2 fl.	J	Fig. 337:14, Pl. 40:4 (p. 438)
T3429	Pv	T 13:2 fl.	J	Fig. 338:9, Pl. 40:9 (p. 440)
T3430	Pv	T 13:2 fl.	J	cf. Fig. 338:5 (p. 440)
T3431	Pv	T 13:2 fl.	J	Fig. 338:11 (p. 440)
T3432	Pv	T 13:2 fl.	J	cf. Fig. 338:11 (p. 440)
T3433	Pv	T 13:2 fl.	J	cf. Fig. 338:10 (p. 440)
T3434	Pv	T 13:2 fl.	J	cf. Fig. 338:6 (p. 440)
T3435	Pv	T 13:2 fl.	J	Fig. 342:5 (pp. 400, 442)
T3436	Pv	T 13:2 fl.	J	Fig. 342:9 (pp. 440, 442)
T3437	Pv	T 13:2 fl.	J	Fig. 342:7 (pp. 440, 442)
T3438	Pv	T 13:2 fl.	J	Fig. 338:4 (pp. 412, 438)
T3439–41	Pv	T 13:2 fl.	J	cf. Fig. 338:4 (p. 438)
T3442	Pv	T 13:2 fl.	J	cf. Pl. 39:1 (p. 431)
T3443	Pv	T 13:2 fl.	J	cf. Fig. 333:2 (p. 431)
T3444	S	T 13:2 fl.	J	pp. 456–57
T3445	S	T 13:2 fl.	J	pp. 214, 456–57
T3446	Pv	T 13:2 (pit)	J	Fig. 337:1 (p. 435)
T3447	Pv	T 13:2 (pit)	J	Fig. 345:6, Pl. 45:5 (p. 448)
T3448	Pv	T 13:2 (pit)	J	Fig. 337:17 (p. 435)
T3449	Pv	T 13:2 (pit)	J	cf. Fig. 361:9 (p. 438)
T3450	Pv	T 13:2 (pit)	J	cf. Fig. 337:4 (p. 435)
T3451	Pv	T 13:2 (pit)	J	Fig. 338:19 (p. 435)
T3452	Pv	T 13:2 (pit)	J	Fig. 342:2 (pp. 436, 442)
T3454	Pv	T 13:2 (pit)	J	Fig. 342:3, Pl. 43:2 (p. 442)
T3455	Pv	T 13:2 (pit)	J	cf. Fig. 337:12 (p. 438)
T3456	Pv	T 13:2 (pit)	J	cf. Fig. 338:17 (p. 440)
T3457	Pv	T 13:2 (pit)	J	cf. Fig. 338:14 (p. 440)
T3458	Pv	T 13:2 (pit)	J	cf. Fig. 342:5 (p. 442)
T3459	Pv	T 13:2 (pit)	J	Pl. 43:4 (p. 442)
T3460–62	Pv	T 13:2 (pit)	J	cf. Fig. 338:6 (p. 440)
T3463	Pv	T 13:2 (pit)	J	cf. Fig. 338:10 (p. 440)
T3464	Pv	T 13:2 (pit)	J	Fig. 338:6 (p. 440)
T3465	Pv	T 13:2 (pit)	J	cf. Fig. 338:9 (p. 440)
T3466	Pv	T 13:2 (pit)	J	Fig. 338:13 (p. 440)
T3467	Pv	T 13:2 (pit)	J	Fig. 338:5 (p. 440)
T3468–70	Pv	T 13:2 (pit)	J	cf. Fig. 338:1 (p. 438)
T3471	Pv	T 13:3	J	Fig. 333:5 (pp. 432, 453)
T3472	Pv	T 13:3	J	Fig. 337:8 (p. 436)
T3473	Pv	T 13:3	J	Fig. 337:9, Pl. 40:2 (p. 436)
T3474	Pv	T 13:3	J	Fig. 337:15 (p. 438)
T3475	Pv	T 13:3	J	Fig. 342:1 (p. 442)
T3476	Pv	T 13:3	J	Fig. 337:6 (p. 435)
T3477	Pv	T 13:3	J	cf. Fig. 337:5 (p. 435)
T3478	Pv	T 13:3	J	Fig. 337:5 (p. 435)
T3479	Pv	T 13:3	J	Fig. 337:3 (p. 435)
T3480	Pv	T 13:3	J	Fig. 337:16 (p. 440)
T3481	Pv	T 13:3	J	Fig. 342:10 (pp. 440, 442)
T3482	Pv	T 13:3	J	Fig. 338:17 (pp. 440, 442)
T3483	Pv	T 13:3	J	Fig. 338:14 (p. 440)
T3484	Pv	T 13:3	J	cf. Fig. 338:12 (p. 440)

Field No.	Gross Category	Findspot	Phase of Findspot	References
T3485	Pv	T 13:3	J	cf. Fig. 338:10 (p. 440)
T3486	Pv	T 13:3	J	cf. Fig. 338:6 (p. 440)
T3487	Pv	T 13:3	J	Fig. 338:10 (p. 440)
T3488	Pv	T 13:3	J	Fig. 338:12 (p. 440)
T3490	Pv	T 13:3	J	cf. Fig. 362:3 (p. 440)
T3491	Pv	T 13:3	J	Fig. 342:4 (pp. 440, 442)
T3492–93	Pv	T 13:3	J	cf. Fig. 338:1 (p. 438)
T3495	Pv	XIV	2 M.R.	cf. Fig. 362:4 (p. 460)
T3496	Pv	XIV	2 M.R.	cf. Fig. 338:13
T3497	Pv	XIV	2 M.R.	cf. Fig. 361:4 (p. 460)
T3498	Pv	XIV	2 M.R.	Fig. 362:3 (pp. 440, 460)
T3499	Pv	XIV	2 M.R.	Fig. 361:9, Pl. 40:3 (pp. 438, 460)
T3500	Pv	XIV	2 M.R.	cf. Fig. 338:13
T3501–2	Pv	XIV	2 M.R.	cf. Fig. 338:12
T3503	Pv	XIV	2 M.R.	cf. Fig. 338:2
T3504	Pv	XIV	2 M.R.	cf. Fig. 338:4
T3522	S	XIV	2 M.R.	Fig. 377:5 (pp. 324, 482, 493)
T3532	S	XIV	2 M.R.	Fig. 378:5 (pp. 483, 493)
T3533	Po	XIV	2 M.R.	Fig. 370, Pl. 50:10 (p. 466)
T3536	M	V	2 M.R.	cf. Fig. 351:5 (p. 470)
T3537	M	V	2 M.R.	Fig. 371:3 (p. 470)
T3544	M	T 8:3	J	Fig. 351:3, Pl. 53:10 (pp. 453, 455)
T3545	Pv	T 8:3	J	Fig. 333:8 (p. 432)
T3547	F	T 8:3	J	p. 456, n. 17
T3572	M	XIV	2 M.R.	Pl. 52:16 (p. 470)
T3580	Po	T 13:1 fl.	J	Fig. 350:3, Pl. 50:11 (pp. 446, 453)
T3582	F	T 13, surf.–1 m.	J	Fig. 353 (p. 456)
T3583	S	XIV	2 M.R.	Fig. 381:1 (pp. 488, 494)
T3593	S	T 4, 1–1.5 m.	2 M.R.	Fig. 378:1, Pl. 68:13 (pp. 482, 493)
T3594	B	T 4, 1–1.5 m.	2 M.R.	Fig. 384:12 (pp. 494, 496)
T3597	F	T 4, 1–1.5 m.	2 M.R.	e.g. Fig. 373:1–3 (p. 473)
T3599	M	T 4:1	J	Fig. 351:1, Pl. 53:1 (pp. 453, 455)
T3602	M	T 4:2	I	Fig. 324:3, Pl. 52:2 (p. 421)
T3603	S	T 4:2	I	Fig. 326:1 (pp. 424, 426)
T3608	M	T 4:3	I	Fig. 324:1, Pl. 52:3 (p. 421)
T3614	M	T 4:3	I	p. 420, n. 11
T3615	U	T 4:3	I	Fig. 329:4, Pl. 78:7 (p. 427)
T3616	Po	T 4:3	I	Fig. 323:3, Pl. 50:5 (p. 420)
T3617	M	T 4:4	I	Fig. 324:4, Pl. 52:4 (pp. 421–22)
T3626	U	T 4:5	I	Fig. 329:3, Pl. 78:5 (p. 427)
T3627	M	T 4:5	I	Fig. 324:6, Pl. 53:14 (pp. 421–22)
T3628	M	T 4:5	I	Fig. 324:2 (pp. 421–22)
T3629	U	T 4:5	I	Fig. 329:5, Pl. 78:6 (p. 427)
T3630	Po	T 4:5	I	cf. Fig. 290 (p. 419)
T3632	Pv	T 13:3	J	cf. Fig. 337:8 (p. 436)
T3633	Pv	T 13:2 fl.	J	cf. Fig. 337:4 (p. 435)
T3634	Pv	T 13:3 (pit)	J	cf. Fig. 337:4 (p. 435)
T3635	Pv	T 13:3 (pit)	J	cf. Fig. 342:5 (p. 442)
T3636	Pv	T 13:3 (pit)	J	Fig. 338:7 (p. 440)
T3637	Pv	T 13:3	J	Fig. 338:8 (p. 440)
T3640	Pv	T 5 II 2 fl.	2 M.R.	Fig. 364:3 (p. 463)
T3643	Pv	XIV	2 M.R.	Fig. 361:11 (p. 460)
T3644	Pv	XIV	2 M.R.	Fig. 361:4 (p. 460)
T3645	Pv	XIV	2 M.R.	Fig. 361:1 (p. 460)
T3646	Pv	XIV	2 M.R.	Fig. 361:3 (p. 460)
T3647	Pv	XIV	2 M.R.	Fig. 367:1, Pl. 46:3 (p. 465)

Field No.	Gross Category	Findspot	Phase of Findspot	References
T3648	Pv	XIV	2 M.R.	Fig. 362:8 (pp. 410, 435, 460)
T3649	Pv	XIV	2 M.R.	Fig. 364:2 (p. 463)
T3650	Pv	XIV	2 M.R.	Fig. 362:6 (pp. 440, 460)
T3651	Pv	XIV	2 M.R.	Fig. 362:5 (pp. 440, 460)
T3652	Pv	XIV	2 M.R.	cf. Fig. 338:1
T3653	Pv	XIV	2 M.R.	cf. Fig. 337:8
T3654	Pv	XIV	2 M.R.	Fig. 362:10 (pp. 435, 440, 460)
T3655	Pv	XIV	2 M.R.	Fig. 361:7, Pl. 47:1 (pp. 408, 410, 438, 441, 460)
T3657	Pv	T 8:3	J	Fig. 337:2 (p. 435)
T3660	Pv	XIV	2 M.R.	Fig. 361:2 (p. 460)
T3662	Pv	T 8:3	J	Fig. 342:6, Pl. 43:3 (pp. 440, 442)
T3663	Pv	T 8:3	J	Fig. 338:15, Pl. 40:8 (pp. 439–40)
T3664	Pv	T 8:3	J	cf. Pl. 39:1 (p. 431)
T3666	Pv	T 8:3	J	cf. Fig. 337:11 (p. 435)
T3667	Pv	T 8:3	J	Pl. 39:1 (p. 431)
T3668	Pv	T 8:3	J	cf. Fig. 338:4 (p. 438)
T3670	Pv	T 4, 0.5–1 m.	2 M.R.	cf. Fig. 362:4 (p. 460)
T3671	Pv	T 4, 0.5–1 m.	2 M.R.	cf. Fig. 338:15
T3672	Pv	T 4, 1–1.5 m.	2 M.R.	Fig. 362:2 (pp. 412, 440, 460)
T3673	Pv	T 4:1 fl.	J	Fig. 345:4, Pl. 43:6 (p. 448)
T3674	Pv	T 4:1 fl.	J	cf. Fig. 338:1 (p. 438)
T3675	Pv	T 4:1 fl.	J	Fig. 337:13 (p. 438)
T3676	Pv	T 4:1 fl.	J	cf. Fig. 305:1 (p. 431, n. 1)
T3677	Pv	T 4:1 fl.	J	Fig. 338:18 (p. 435)
T3678	Pv	T 4:1 fl.	J	Fig. 345:2, Pl. 45:2 (pp. 416, 446)
T3679	Pv	T 4:1 fl.	J	Fig. 345:3, Pl. 45:1 (p. 446)
T3681	Pv	T 4:2	I	Fig. 318:3 (p. 414)
T3682	Pv	T 4:2	I	Fig. 318:2, Pl. 43:1 (p. 414)
T3683	Pv	T 4:2	I	Fig. 311:2 (p. 406)
T3684	Pv	T 4:2	I	Fig. 314:2 (p. 408)
T3685	Pv	T 4:3	I	Fig. 309:1 (p. 405)
T3686	Pv	T 4:3	I	Fig. 314:1 (p. 408)
T3687–88	Pv	T 4:3	I	cf. Fig. 305:1 (p. 399)
T3689	Pv	T 4:3	I	cf. Fig. 305:2 (p. 399)
T3690	Pv	T 4:4	I	Fig. 309:3, Pl. 39:2 (p. 405)
T3691	Pv	T 4:4	I	cf. Fig. 314:1 (p. 408)
T3692	Pv	T 4:4 (pit)	I	cf. Fig. 315:3 (p. 410)
T3693	Pv	T 4:4 (pit)	I	cf. Fig. 338:4 (p. 412)
T3694	Pv	T 4:4 (pit)	I	cf. Fig. 337:12 (p. 410)
T3695	Pv	T 4:4 (pit)	I	Fig. 314:7 (p. 408)
T3696	Pv	T 4:4 (pit)	I	Fig. 311:3, Pl. 38:3 (p. 406)
T3697	Pv	T 4:5	I	cf. Fig. 305:7 (p. 399)
T3699	Po	T 4:4 (pit)	I	Fig. 323:1, Pl. 51:8 (p. 419)
T3702	M	T 4:4 (pit)	I	p. 420, n. 11
T3703	M	T 4:4 (pit)	I	Fig. 324:5, Pl. 53:11 (pp. 421–22)
T3704	B	T 4:5 fl.	I	Fig. 328:1 (p. 426)
T3709	M	T 4:5 fl.	I	Fig. 324:7, Pl. 52:11 (pp. 421–22, 453)
T3711	Pv	T 4, 1–1.5 m.	2 M.R.	Fig. 367:4 (pp. 416, 465)
T3712	Pv	T 4:2	I	cf. Fig. 338:1 (p. 412)
T3713	Pv	T 4:2	I	cf. Fig. 338:19 (p. 408)
T3714	Pv	T 4:3	I	Fig. 315:4 (p. 412)
T3715	Pv	T 4:4	I	Fig. 318:1, Pl. 43:7 (p. 414)
T3716	Pv	T 4:5	I	Fig. 315:3, Pl. 40:7 (pp. 410, 413)
T3717	Pv	T 4:5	I	Fig. 314:5 (p. 408)
T3718	Pv	T 4:5	I	cf. Fig. 305:10 (p. 399)
T3719	Pv	T 4:5/1	I	Fig. 315:2 (pp. 410, 428)

Field No.	Gross Category	Findspot	Phase of Findspot	References
T3720	Pv	T 4:5/1	I	Fig. 309:5 (pp. 405, 428)
T3721	Pv	T 4:5/1	I	Fig. 305:8 (pp. 399, 428)
T3722	Pv	T 4:5/1	I	cf. Fig. 282:5 (pp. 399, 428)
T3723	Pv	T 4:5/1	I	Fig. 305:4, Pl. 34:5 (pp. 399, 428)
T3724–25	Pv	T 4:5/1	I	cf. Fig. 306:3 (pp. 399, 428)
T3726	Pv	T 4:5/1	I	Fig. 306:3, Pl. 34:2 (pp. 364, n. 11, 368, 399, 428)
T3727	Pv	T 4:5/1	I	Fig. 306:1, Pl. 34:3 (pp. 364, n. 11, 368, 399, 402, 428)
T3728	Pv	T 4:5/1	I	cf. Fig. 306:3 (pp. 399, 428)
T3729	Pv	T 4:5/1	I	Fig. 306:4 (pp. 400, 428)
T3730	Pv	T 4:5 fl.	I	Fig. 305:10, Pl. 34:4 (p. 399)
T3731	Pv	T 4:5 fl.	I	cf. Fig. 305:7 (p. 399)
T3732	Pv	T 4:5 fl.	I	cf. Fig. 282:5 (p. 399)
T3733	Pv	T 4:5 fl.	I	Fig. 305:3, Pl. 33:6 (pp. 361, 399)
T3734	Pv	T 4:6	H	cf. Fig. 282:13 (p. 364)
T3736	B	T 4:6	H	Fig. 299:4 (p. 391)
T3737	M	T 8:2	2 M.R.	Fig. 371:4 (p. 470)
T3740	M	T 5 I 3	2 M.R.	pp. 470, 497
T3741–42	Pv	T 8:3	J	cf. Fig. 362:3 (p. 440)
T3743	Pv	T 8:3	J	cf. Fig. 337:4 (p. 435)
T3744	Pv	T 8:3	J	Fig. 338:3 (p. 438)
T3745	Pv	T 8:3	J	cf. Fig. 338:3 (p. 438)
T3746	Pv	T 8:3	J	cf. Fig. 338:4 (p. 438)
T3747	Pv	T 8:3 (pit)	J	Fig. 338:1, Pl. 40:6 (pp. 410, 438)
T3748	Pv	T 8:4	J	cf. Fig. 338:3 (p. 438)
T3749	Pv	T 4:6	H	Fig. 271:5 (p. 353)
T3751	Pv	T 8:3 (pit)	J	cf. Fig. 362:3 (p. 440)
T3752	Pv	T 8:3 (pit)	J	cf. Fig. 338:15 (p. 440)
T3753	Pv	T 8:3 (pit)	J	cf. Fig. 338:4 (p. 438)
T3754–56	Pv	T 8:3 fl.	J	cf. Fig. 345:5 (p. 446)
T3757	Pv	T 8:3 fl.	J	Fig. 345:5, Pl. 47:7 (p. 446)
T3758	Pv	T 8:4 fl.	J	Fig. 345:1 (p. 446)
T3759	Pv	T 8:3 (pit)	J	Fig. 349 (p. 450)
T3760–61	Pv	T 8:3 (pit)	J	cf. Fig. 338:16 (p. 440)
T3762	Pv	T 8:3 (pit)	J	Fig. 338:16 (p. 440)
T3763	Pv	T 8:3 (pit)	J	cf. Fig. 338:16 (p. 440)
T3764	Pv	T 8:3 (pit)	J	cf. Fig. 338:2 (p. 438)
T3765	Pv	T 8:3 (pit)	J	Fig. 338:2 (pp. 410, 438)
T3766	Pv	T 8:3 (pit)	J	cf. Fig. 338:2 (p. 438)
T3767	Pv	T 8:3 (pit)	J	cf. Fig. 338:1 (p. 438)
T3768	Pv	T 8:3 (pit)	J	cf. Fig. 338:2 (p. 438)
T3769–70	Pv	T 8:3 (pit)	J	cf. Fig. 338:1 (p. 438)
T3771	Pv	T 8:4	J	cf. Fig. 314:1
T3772	Pv	T 8:4 fl.	J	cf. Fig. 338:1 (p. 438)
T3774–76	Pv	T 8:3 (pit)	J	cf. Fig. 338:16 (p. 440)
T3778–79	Pv	T 8:3 (pit)	J	cf. Fig. 338:2 (p. 438)
T3780–82	Pv	T 8:3 (pit)	J	cf. Fig. 338:1 (p. 438)
T3783	Pv	J 8:3 (pit)	J	cf. Fig. 338:19 (p. 435)
T3784	Pv	T 8:3 (pit)	J	Fig. 333:1, Pl. 39:7 (p. 431)
T3785	Pv	T 8:3 (pit)	J	cf. Fig. 337:5 (p. 435)
T3786	Pv	T 8:3 fl.	J	cf. Fig. 362:8 (p. 435)
T3787	Pv	T 8:3 fl.	J	cf. Fig. 345:3 (p. 446)
T3788	Pv	T 8:4	J	Fig. 337:10 (p. 436)
T3789	Pv	T 8:2 or high 3	2 M.R.	cf. Fig. 338:1
T3790	Pv	T 8:3 (pit)	J	Fig. 342:8, Pl. 43:5 (pp. 440, 442)
T3791	Pv	T 8:4 (pit)	J	cf. Fig. 315:4 (p. 438)

Field No.	Gross Category	Findspot	Phase of Findspot	References
T3792	Pv	T 8:4 (pit)	J	cf. Fig. 337:10 (p. 436)
T3793	M	T 8:3 fl.	J	Fig. 351:7, Pl. 53:16 (p. 455)
T3794	Po	T 8:3 (pit)	J	Fig. 350:1, Pl. 49:5 (p. 450)
T3795	Po	T 8:3 (pit)	J	Fig. 350:4 (p. 453)
T3796	Po	T 8:3 (pit)	J	Fig. 350:5, Pl. 50:12 (pp. 446, 453)
T3799	M	T 8:4 (pit)	J	Fig. 352:2 (pp. 453, 455)
T3800	M	T 8:3 fl.	J	Fig. 351:4, Pl. 53:9 (pp. 453, 455)
T3802	Pv	T 8:3 fl.	J	Fig. 333:6, Pl. 39:8 (p. 432)
T3803	Pv	T 8:4 fl.	J	Fig. 33:4 (p. 432)
T3805	Pv	T 8:4 (pit)	J	cf. Fig. 338:15 (p. 440)
T3806	Pv	T 8:4 (pit)	J	cf. Fig. 362:3 (p. 440)
T3807	Pv	T 8:4 (pit)	J	cf. Fig. 362:4 (p. 440)
T3808	Pv	T 8:4 (pit)	J	cf. Fig. 362:3 (p. 440)
T3809	Pv	T 8:4 fl.	J	cf. Fig. 338:4 (p. 438)
T3810–11	Pv	T 8:4 fl.	J	cf. Fig. 315:3 (p. 438)
T3812	Pv	T 8:4 (pit)	J	cf. Fig. 337:4 (p. 435)
T3814	Pv	T 4:7	H	cf. Fig. 282:8 (p. 364)
T3815	Pv	T 4:6	H	cf. Fig. 282:12 (p. 364)
T3816	Po	T 4:6	H	Figs. 290:2, 291 *B* 1 (p. 373)
T3817	Pv	T 8:5	I	cf. Fig. 305:2 (p. 399)
T3819	Po	T 8:5	I	Fig. 323:2, Pl. 50:13 (p. 419)
T3821*a*	S	T 4:7 fl.	H	pp. 385, 389
T3821*b*	U	T 4:7 fl.	H	e.g. Fig. 301:1 (p. 394)
T3822	U	T 4:7 fl.	H	Fig. 301:3, Pl. 78:12 (p. 395)
T3823	B	T 4:7 fl.	H	Fig. 299:3 (p. 391)
T3824	F	T 4:7 fl.	H	Fig. 294:8 (pp. 381, 534)
T3826	M	T 8:4 (pit)	J	Fig. 351:6, Pl. 54:2 (p. 453)
T3827–28	Pv	T 8:6 (pit)	I	cf. Fig. 315:3 (p. 410)
T3829	Pv	T 4:8	H	Fig. 287:2, Pl. 38:2 (p. 369)
T3830	Pv	T 4:7 fl.	H	cf. Fig. 282:13 (p. 364)
T3831	Pv	T 4:8 fl.	H	Fig. 282:8, Pl. 33:5 (p. 364)
T3835	Pv	T 4:9	H	Fig. 271:3 (p. 352)
T3837	S	Jabal Bariska	?	Fig. 381:4 (pp. 487 f., 494)
T3838*a*	S	Tell Hasanuşagı	?	Fig. 379:3 (pp. 483 f., 493)
T3838*b*	S	Tell Hasanuşagı	?	Fig. 379:4 (pp. 483 f., 493)
T3841	Po	T 1:4	I	Fig. 323:4 (p. 420)
T3842	Po	T 1:4	I	Pl. 48:13 (p. 420)
T3843	Po	T 13, surf.–1 m.	J	Fig. 350:2 (p. 450)
T3844	Po	XIV	2 M.R.	Fig. 369:4, Pl. 49:13 (pp. 63, n. 15, 470, 490)
T3845	F	T 4:3	I	Fig. 325:3 (p. 422)
T3846	F	T 4:4	I	Fig. 325:1 (p. 422)
T3847	F	T 4:5	I	Fig. 325:4 (p. 422)
T3848	F	T 4:5 fl.	I	Fig. 325:5 (p. 422)
T3849	F	T 4:5 (pit)	I	Fig. 325:2 (p. 422)
T3850	F	VIII	O	Fig. 373:5 (pp. 458, 473)
T3851	F	T 4:2	I	Pl. 66:2 (pp. 422, n. 14, 424)
T3852	F	T 4:6	H	Pl. 65:9 (pp. 380–81)
		TELL AL-JUDAIDAH		
x19	S	near Chatal Hüyük	?	Fig. 380:1 (pp. 483 f., 493)
x42	M	TT 6	2 M.R.	Fig. 371:5, Pl. 54:4 (p. 470)
x45	S	TT 6, surf.	?	Fig. 377:2, Pl. 68:10 (pp. 480, 493)
x254	S	JK 3:5 fl.	2 M.R.	Pl. 69:8 (pp. 482, 493)
x256	Po	JK 3:5 fl.	2 M.R.	cf. Fig. 290 (cf. p. 470)
x308	Po	JK 3:6	I	cf. Fig. 290 (pp. 400, 419)
x385	Po	JK 3:7 fl.	H	Fig. 290:11 (p. 373)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x508	S	D 8/1, fl. 13	M	Fig. 380:7 (pp. 487, 493)
x516–17	Po	JK 3:5	2 M.R.	cf. Fig. 290 (cf. p. 470)
x624	S	JK 3:6	I	Fig. 326:7 (pp. 425–26)
x663	Po	JK 3:7	H	Fig. 289:3, Pl. 51:7 (p. 372)
x716	Po	JK 3:6	I	Fig. 290:10 (pp. 400, 419)
x757–58	Po	JK 3:6	I	cf. Fig. 290 (pp. 400, 419)
x759	S	JK 3:6	I	Fig. 326:6 (pp. 425–26)
x777	Po	JK 3:8	H	p. 372
x818	Po	JK 3:8	H	Fig. 289:2 (p. 372)
x820	B	JK 3:8	H	Pl. 74:4 (p. 391)
x904	Pv	JK 3:1	2 M.R.	Fig. 358:6, Pl. 37:2 (pp. 458 f.)
x905	Po	JK 3:1	2 M.R.	cf. Fig. 290 (cf. p. 470)
x950	Pv	JK 3:1	2 M.R.	Fig. 358:3, Pl. 33:3 (p. 458)
x951	Pv	TT 20 XI 1	2 M.R.	Fig. 364:5 (p. 463)
x965	S	TT 20, unstrat.	?	Fig. 377:3, Pl. 68:3 (pp. 482, 493)
x968	S	TT 20, dump	?	Fig. 382:6 (pp. 492, 494)
x978–80	Po	JK 3:2	2 M.R.	cf. Fig. 290 (cf. p. 470)
x983	F	JK 3:2	2 M.R.	Fig. 372:3 (pp. 472, 476)
x991	S	TT 20 XII 1	2 M.R.	Fig. 381:2 (p. 488, 494)
x1042	Po	TT 20, unstrat.	?	Fig. 369:2, Pl. 50:8 (p. 466)
x1213	S	JK 3:3	2 M.R.	Pl. 71:17 (pp. 492, 494)
x1245	S	TT 20 XII 1	2 M.R.	Fig. 378:4 (pp. 482, 493)
x1246	U	TT 20 XII 1	2 M.R.	Fig 385, Pl. 78:10 (p. 497)
x1255	S	TT 20 XIV	G or H	Fig. 297:3 (pp. 329, n. 34, 388, 390)
x1293	M	JK 3:3	2 M.R.	cf. Fig. 351:1 (p. 470)
x1295	Pv	JK 3:2	2 M.R.	Fig. 358:7 (pp. 458 f.)
x1311	S	JK 3:4	2 M.R.	Fig. 379:2 (pp. 484, 494)
x1359	S	JK 3:3	2 M.R.	Fig. 379:1 (pp. 484, 494)
x1408	B	TT 20 X 1	2 M.R.	Fig. 384:7 (p. 496)
x1425	Po	TT 20 XI 1	2 M.R.	Fig. 368:4, Pl. 50:9 (p. 466)
x1426	S	TT 20 XI 1	2 M.R.	Fig. 378:2 (pp. 482, 493)
x1449	Po	TT 20 XII 3	2 M.R.	cf. Fig. 290 (cf. p. 470)
x1450	B	TT 20 XIV	G or H	Pl. 73:12 (pp. 337, n. 41, 390 f.)
x1452	S	TT 20 XIII 1	2 M.R.	pp. 479, 493
x1489	Pv	TT 20 XIII 1	2 M.R.	Fig. 362:4 (pp. 440, 460)
x1492	Pv	JK 3:2	2 M.R.	cf. Fig. 315:4
x1505	B	JK 3:5	2 M.R.	Pl. 74:16 (p. 496)
x1507	Po	JK 3:5	2 M.R.	pp. 466, 470
x1601	M	TT 20 XII 2	2 M.R.	Fig. 371:1 (p. 470)
x1608	Po	TT 20 XIV	G or H	pp. 294, n. 12, 372
x1638	S	TT 20, unstrat.	?	Fig. 377:4, Pl. 68:7 (pp. 482, 493)
x1696	Pv	JK 3:2	2 M.R.	cf. Fig. 315:4
x1697	Pv	JK 3:2	2 M.R.	Fig. 362:1 (p. 460)
x1698	Pv	JK 3:2	2 M.R.	cf. Fig. 362:1 (p. 460)
x1703	M	TT 20 XIII 2	2 M.R.	cf. Fig. 351:3 (p. 470)
x1716	Po	JK 3:5	2 M.R.	cf. Fig. 290 (cf. p. 470)
x1750	U	TT 20 XI 1	2 M.R.	Pl. 78:11 (p. 497)
x1767	S	JK 3:7	H	p. 383, n. 24
x1795	S	TT 20 XI 1	2 M.R.	Fig. 377:6 (pp. 482, 493)
x1866	Pv	JK 3:7	H	cf. Fig. 282:7 (p. 364)
x1868	S	JK 3:7	H	Fig. 296:17 (pp. 386, 390)
x1914	B	JK 3:7	H	Pl. 72:3 (p. 390)
x1919	Po	JK 3:7	H	cf. Fig. 290 (pp. 372–73)
x1921	B	JK 3:7	H	p. 390, n. 30
x1931	B	TT 20 XII 3	2 M.R.	Fig. 384:11 (p. 497)
x1967	Pv	JK 3:2 (pit)	2 M.R.	cf. Fig. 358:1 (p. 458)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x1970	B	TT 20 XIII 1	2 M.R.	Fig. 384:5 (p. 496)
x1971	Po	TT 20 XIII 1	2 M.R.	Fig. 369:6 (p. 470)
x1976	S	TT 20 XII 1	2 M.R.	Fig. 378:7 (pp. 482 f., 493)
x2021	M	JK 3:8 (pit)	H	Fig. 292:11 (pp. 376, 379)
x2023	S	JK 3:8 (pit)	H	Fig. 296:14 (pp. 385, 389)
x2024	U	JK 3:9	H	cf. Pl. 78:13 (p. 395)
x2025	U	JK 3:9	H	Pl. 78:13 (p. 395)
x2026	U	JK 3:9	H	Pl. 78:15 (p. 395)
x2027	S	JK 3:9	H	Fig. 296:1 (pp. 385, 389)
x2029	M	JK 3:7	H	cf. Fig. 292:12 (p. 376)
x2032	Pv	JK 3:7	H	Fig. 287:1, Pl. 38:1 (p. 369)
x2038	Pv	TT 20 XI 2	2 M.R.	Fig. 364:1 (p. 463)
x2048	S	TT 20 XI 1	2 M.R.	cf. Fig. 378:2 (pp. 482, 493)
x2082	M	JK 3:9	H	Fig. 292:10 (pp. 376, 379)
x2115	Po	JK 3:9	H	Fig. 290:6, Fig. 291 *B* 2 (pp. 372 f.)
x2118	F	JK 3:9	H	Fig. 294:4 (p. 536)
x2120	M	JK 3:9	H	cf. Fig. 292:12 (p. 376)
x2132	F	TT 20 XIII 3	2 M.R.	Fig. 372:2 (p. 475)
x2133	S	TT 20 XIII 3	2 M.R.	Fig. 383:2, Pl. 71:2 (pp. 492, 494)
x2139	S	TT 20 XIV	G or H	Fig. 296:8 (pp. 326, n. 29, 385, 389)
x2140	S	TT 20 XIV	G or H	cf. Fig. 296:1 (pp. 326, n. 29, 385, 389)
x2142	B	TT 20 XII 1	2 M.R.	Fig. 384:6 (p. 496)
x2151	B	TT 20 XIII 3	2 M.R.	Pl. 73:11 (p. 494)
x2192	U, M	JK 3:10	H	Fig. 292:9, Pl. 52:15 (pp. 376, 379, 395)
x2193	U, M	JK 3:10	H	pp. 376, 379, 395
x2194	M	JK 3:10	H	cf. Fig. 292:1–4 (pp. 373, 379)
x2218	Pv	TT 20 XI 1	2 M.R.	Fig. 364:6 (p. 463)
x2222	S	G 7:2	N?	Fig. 379:11 (pp. 484, 494)
x2274	Po	JK 3:10	H	Fig. 289:4, Pl. 51:9 (p. 372)
x2275	S	JK 3:10	H	cf. Fig. 296:2 (p. 385)
x2276	M	JK 3:10	H	Fig. 292:1 (pp. 373, 379)
x2293	Po	TT 20 XII 1	2 M.R.	Fig. 369:3 (p. 470)
x2295	S	TT 20 XIV 2	G	Pl. 70:4 (pp. 327, 335)
x2298	S	TT 20 XIV 1	G	Fig. 252:15 (pp. 327, 335)
x2313	Po	TT 20 XIII 1	2 M.R.	Fig. 290:8 (p. 470)
x2314	S	TT 20 XIV 2	G	Fig. 250:1 (pp. 323 f., 334)
x2317	B	JK 3:2 (pit)	2 M.R.	Fig. 384:8 (p. 496)
x2320	Pv	JK 3:2 (pit)	2 M.R.	cf. Fig. 358:5 (p. 458)
x2330	Po	TT 20 XII 1	2 M.R.	Fig. 368:2, Pl. 50:7 (p. 466)
x2331	F	TT 20 XIV 3	G	Fig. 246:2 (pp. 473, 533–34)
x2340	S	TT 20 XIV 1	G	Fig. 249:1, Pl. 69:12 (pp. 321, 334)
x2342	S	TT 20 XIII 3	2 M.R.	pp. 479, 493
x2347	B	JK 3:8	H	p. 391
x2359	S	TT 20 XIV 3	G	Pl. 69:14 (pp. 321, 334)
x2360	S	TT 20 XIII 4	2 M.R.	Fig. 378:3 (pp. 482, 493)
x2375	Po	JK 3:9 fl.	H	Fig. 290:3 (pp. 372 f.)
x2376	M	JK 3:8 fl.	H	Fig. 292:14, Pl. 53:8 (pp. 376, 379)
x2389	S	JK 3:9	H	Fig. 297:4 (pp. 388, 390)
x2390	S	JK 3:9	H	Fig. 297:6 (pp. 388, 390)
x2391	S	JK 3:9	H	Fig. 296:11 (pp. 385, 389)
x2392	M	JK 3:9	H	cf. Fig. 292:1–4 (pp. 373, 379)
x2397	S	JK 3:2 (pit)	2 M.R.	Pl. 70:2 (pp. 482, 493)
x2430	Pv	JK 3:10	H	Fig. 276, Pl. 30:7 (p. 356)
x2465	F	JK 3:10	H	Fig. 294:3 (pp. 380, 533)
x2470	M	JK 3:10	H	Fig. 292:12 (pp. 376, 379)
x2471	S	JK 3:10	H	Fig. 296:18 (pp. 386, 390)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x2474	Po	JK 3:5	2 M.R.	Fig. 369:5 (p. 470)
x2475	B	JK 3:11	H	Pl. 72:10 (p. 390)
x2477	M	JK 3:11	H	cf. Fig. 292:1–4 (pp. 373, 379)
x2478	Po	JK 3:11	H	Fig. 289:5, Pl. 49:16 (p. 372)
x2479	Pv	JK 3:11	H	cf. Fig. 271:1 (p. 352)
x2480	F	JK 3:11	H	Fig. 294:1 (pp. 380, 533)
x2481	S	JK 3:11	H	pp. 383, 388
x2484	S	JK 3:11	H	Fig. 296:15 (pp. 385, 389)
x2485*a*	M	JK 3:11	H	Fig. 292:3 (pp. 373, 379)
x2485*b–c*	M	JK 3:11	H	cf. Fig. 292:3 (pp. 373, 379)
x2486	B	JK 3:11	H	Pl. 77:6 (p. 394)
x2487	S	JK 3:11	H	pp. 383, 388
x2488	Po	JK 3:11	H	Pl. 49:25 (p. 372)
x2490	S	JK 3:11	H	Fig. 296:21 (pp. 386, 390)
x2491	B	JK 3:11	H	Fig. 299:2 (p. 391)
x2492	B	JK 3:11	H	Fig. 299:6, Pl. 74:18 (p. 391)
x2493*a*	M	JK 3:11	H	Fig. 292:13, Pl. 53:13 (pp. 376, 379)
x2493*b*	M	JK 3:11	H	cf. Fig. 292:13 (pp. 376, 379)
x2494	F	JK 3:11	H	Fig. 294:2 (pp. 380, 536)
x2495–96	S	JK 3:11	H	cf. Fig. 296:2 (pp. 385, 389)
x2498–99	S	JK 3:11	H	cf. Fig. 296:2 (pp. 385, 389)
x2500	Po	JK 3:11	H	p. 371
x2501	S	JK 3:11	H	cf. Fig. 296:6 (pp. 385, 389)
x2502	S	JK 3:10	H	Fig. 297:5 (pp. 388, 390)
x2503	Po	JK 3:11	H	Fig. 290:5 (pp. 372 f.)
x2504	Po	JK 3:11	H	p. 371, n. 18
x2505	M	JK 3:11	H	cf. Fig. 292:1–4 (pp. 373, 379)
x2506	M	JK 3:11	H	p. 379
x2507	F	JK 3:11	H	Pl. 66:1 (pp. 381, 422, n. 14)
x2514	S	JK 3:11	H	Pl. 69:7 (pp. 383, 389)
x2515	B	JK 3:11	H	Pl. 74:9 (p. 391)
x2516	B	JK 3:11	H	Fig. 299:8, Pl. 75:9 (p. 391)
x2525	S	JK 3:11	H	pp. 383, 389
x2526	M	JK 3:11 fl.	H	Fig. 292:15 (pp. 376, 379)
x2528	S	JK 3:11	H	Fig. 296:4 (pp. 385, 389)
x2529	S	JK 3:12	H	cf. Fig. 296:2 (pp. 385, 389)
x2530	S	JK 3:12	H	Pl. 71:11 (pp. 386, 390)
x2540	M	JK 3:12	H	Fig. 292:2 (pp. 373, 379)
x2541	Pv	JK 3:11	H	Fig. 282:4 (p. 364)
x2542	Pv	JK 3:4	2 M.R.	Fig. 358:4 (p. 458)
x2543	Pv	JK 3:10	H	Fig. 282:12, Pl. 37:1 (p. 364)
x2544	Pv	JK 3:2 (pit)	2 M.R.	cf. Fig. 358:1 (p. 458)
x2545	Pv	JK 3:11	H	Fig. 282:11 (p. 364)
x2546	Pv	JK 3:11	H	cf. Fig. 271:1 (p. 352)
x2547–48	Pv	JK 3:11	H	cf. Fig. 358:1 (p. 361)
x2549	Pv	JK 3:9 (pit)	H	cf. Fig. 271:1 (p. 352)
x2551	Pv	JK 3:9 (pit)	H	Fig. 282:5, Pl. 33:8 (pp. 364, 366)
x2552	Pv	JK 3:11	H	Fig. 271:2, Pl. 26:2 (p. 352)
x2553	Pv	JK 3:11	H	cf. Fig. 271:2 (p. 352)
x2554	Pv	JK 3:10	H	Fig. 282:7 (p. 364)
x2556	S	JK 3:10	H	p. 383, n. 24
x2557	Pv	TT 20 XIV 1	G	cf. Fig. 203:1 (p. 265)
x2559	Pv	JK 3:4	2 M.R.	Fig. 358:8 (pp. 368, 458 f.)
x2560	Pv	JK 3:11 fl.	H	Fig. 282:3 (p. 361)
x2561	Pv	TT 20 XIV 3	G	cf. Fig. 203:1 (p. 265)
x2562	Pv	TT 20 XIV 1	G	cf. Fig. 203:1 (p. 265)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x2563	Pv	JK 3:3	2 M.R.	cf. Fig. 358:1 (p. 458)
x2564	Pv	JK 3:4	2 M.R.	cf. Fig. 358:4 (p. 458)
x2565	Pv	JK 3:2 (pit)	2 M.R.	cf. Fig. 362:1 (p. 460)
x2566	Pv	JK 3:11	H	Fig. 271:4 (p. 352)
x2567	Pv	JK 3:9	H	Fig. 282:6 (pp. 364, 366)
x2568–69	Pv	JK 3:9	H	cf. Fig. 358:1 (p. 361)
x2570–71	Pv	JK 3:7	H	cf. Fig. 358:1 (p. 361)
x2575	Pv	JK 3:9	H	cf. Fig. 358:1 (p. 361)
x2578	Pv	JK 3:2 (pit)	2 M.R.	Fig. 358:5 (pp. 458 f.)
x2579	Pv	JK 3:2 (pit)	2 M.R.	cf. Fig. 358:1 (p. 458)
x2583	Pv	JK 3:3	2 M.R.	cf. Fig. 358:1 (p. 458)
x2586	Pv	JK 3:2 (pit)	2 M.R.	Fig. 358:1, Pl. 33:4 (pp. 361, 402, 458)
x2588	Pv	JK 3:6	I	cf. Fig. 358:1 (p. 361)
x2589	Pv	JK 3:6	I	Fig. 305:7 (p. 399)
x2592	Pv	JK 3:2	2 M.R.	Fig. 358:2 (p. 458)
x2593	Pv	JK 3:10	H	Fig. 282:9 (pp. 364, 366)
x2594	Pv	JK 3:2	2 M.R.	cf. Fig. 363:6 (p. 463)
x2597	Pv	JK 3:10	H	Fig. 280, Pl. 26:7 (p. 358)
x2599	Pv	JK 3:11	H	cf. Fig. 271:1 (p. 352)
x2602	Po	JK 3:10	H	Fig. 290:1 (p. 373)
x2603	B	JK 3:11	H	Fig. 300 (pp. 391 f.)
x2604	M, S, U	JK 3:11 fl.	H	Figs. 292:17, 296:2, 3, 5, 7, 9, 10, 12, 13, 301:2, Pl. 70:1 (pp. 379, 385, 389 f., 394–95)
x2611–12	S	JK 3:7	H	p. 383, n. 24
x2619	B	JK 3:11	H	Pl. 77:4 (p. 394)
x2620	M	JK 3:11	H	Fig. 292:6 (pp. 376, 379)
x2621	B	JK 3:11	H	Fig. 299:7 (p. 391)
x2623	B	JK 3:11	H	Pl. 73:7 (p. 391)
x2624	B	JK 3:11	H	Fig. 299:9, Pl. 76:12 (p. 391)
x2625	S	JK 3:11	H	Fig. 298 (pp. 388, 390)
x2626	S	JK 3:11	H	Fig. 295:5 (pp. 383, 389)
x2634	S	JK 3:12	H	Fig. 296:6 (pp. 385, 390)
x2637	S	JK 3:12	H	Fig. 297:2 (pp. 220, 387, 390)
x2638	S	JK 3:12	H	Fig. 296:19, Pl. 71:6 (pp. 386, 390)
x2652	Po	JK 3:13	G	Fig. 238:2, Pl. 49:18 (p. 296)
x2653	M	JK 3:13	G	p. 314
x2654	M	JK 3:13	G	cf. Fig. 239:4–5 (pp. 298, 313)
x2655	Pv	JK 3:11	H	cf. Fig. 358:1 (p. 361)
x2656	Pv	JK 3:13	G	cf. Fig. 223:8 (p. 284)
x2657	S	JK 3:12	H	Fig. 297:1 (pp. 387, 390)
x2658	Po	JK 3:12	H	p. 371, n. 18
x2659	M	JK 3:12	H	Fig. 292:7 (pp. 376, 379)
x2660	S	JK3:12	H	pp. 385, 390
x2661	S	JK 3:12 (pit)	G	cf. Fig. 252:6 (pp. 326, 335)
x2662	Na	JK 3:12 (pit)	G	p. 344
x2663	Po	JK 3:12 (pit)	G	cf. Fig. 237 (p. 294)
x2664	B	JK 3:12 fl to 13 fl.	G	Fig. 256:10, Pl. 74:12 (p. 338)
x2665	B	JK 3:12 fl. to 13 fl.	G	cf. Fig. 256:3 (p. 338)
x2677	S	JK 3:12	H	Fig. 295:4, Pl. 68:6 (pp. 383, 389)
x2679	B	JK 3:12	H	Fig. 299:5 (p. 391)
x2680	B	JK 3:12	H	Fig. 299:1 (p. 391)
x2691	M	JK 3:11	H	Fig. 292:5 (pp. 373, 379)
x2707	B	JK 3:12	H	Fig. 299:10 (pp. 393 f.)
x2709	S	JK 3:12	H	pp. 383, 388
x2710	M	JK 3:12	H	Fig. 292:16, Pl. 53:6 (pp. 376, 379)
x2711	S	JK 3:12	H	cf. Fig. 296:9 (pp. 385, 390)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x2712	S	JK 3:12	H	pp. 385, 390
x2713	S	JK 3:13?	G	Fig. 249:12, Pl. 67:9 (pp. 323, 334)
x2718	F	JK 3:12	H	Fig. 294:7 (pp. 381, 534)
x2727	M	JK 3:12 fl.	G	cf. Fig. 239:1–3 (pp. 298, 313)
x2728	Po	JK 3:13	G	Fig. 235:8 (pp. 270, 294)
x2729	Po	JK 3:13	G	Fig. 235:9 (p. 296)
x2730*a*	U	JK 3:13	G	Pl. 78:19 (p. 343)
x2731*a*	U	JK 3:13	G	p. 343
x2731*b*	B	JK 3, unstrat.	?	pp. 494, 496
x2732*b*	M	JK 3:12 fl.	G	p. 296, n. 14
x2736*b*	F	JK 3:12 fl.	G	Fig. 246:13 (pp. 315–16, 534)
x2738*b*	B	JK 3:12 fl.	G	p. 338
x2739*b*	B	JK 3:12 fl.	G	cf. Fig. 256:3 (p. 338)
x2741	S	JK 3:12 fl.	G	Fig. 251:5 (pp. 324, 335)
x2742	M	JK 3:12 fl.	G	Fig. 239:7, Pl. 53:15 (pp. 298, 314)
x2743	M	JK 3:12 fl.	G	Fig. 239:1 (pp. 298, 313)
x2744	M	JK 3:12 fl.	G	p. 314
x2746	F	JK 3:13	G	Pl. 66:3 (p. 316)
x2750	U	JK 3:13	G	Pl. 78:18 (p. 343)
x2751	Na	JK 3:13	G	p. 344
x2752	S	JK 3:13	G	Fig. 248:1 (pp. 319, 333)
x2765	B	JK 3:14?	G	p. 338
x2770	S	JK 3:14?	G	p. 321, n. 27
x2775	B	JK 3:14?	G	p. 338
x2776	S	JK 3:14?	G	cf. Fig. 252:13 (pp. 327, 335)
x2777	F	JK 3:13	G	Pl. 66:5 (p. 318)
x2786	S	JK 3:13	G	cf. Fig. 252:17 (pp. 327, 335)
x2787	Po	JK 3:13	G	cf. Fig. 237 (p. 294)
x2788	M	JK 3:13	G	p. 314
x2789	Po	JK 3:13	G	p. 294, n. 12
x2791	Po	JK 3:13 fl.	G	Figs. 235:7, 236:2 (pp. 63, n. 15, 296, 490)
x2792	S	JK 3:14	G	Fig. 254:1 (pp. 331, 337)
x2799	S	JK 3:11 (pit)	H	Fig. 296:20 (pp. 386, 390)
x2810	S	JK 3:14	G	cf. Fig. 249:6 (pp. 321, 334)
x2811	S	JK 3:14	G	pp. 319, 333
x2812	S	JK 3:14	G	pp. 327, 336
x2813	Po	JK 3:14	G	Fig. 237:1, Pl. 51:12 (p. 294)
x2815	B	JK 3:14	G	p. 337, n. 41
x2816	B	JK 3:14	G	cf. Fig. 256:2 (p. 338)
x2817	Po	JK 3:14	G	Fig. 235:6, Pl. 48:8 (p. 294)
x2819	S	JK 3:14	G	Fig. 249:7 (pp. 321, 334)
x2824	S	JK 3:14	G	cf. Fig. 252:4 (pp. 326, 335)
x2832–33	Na	JK 3:14	G	p. 344
x2837	S	JK 3:14	G	Fig. 252:10 (pp. 327, 335)
x2838	Po	JK 3:14	G	Pl. 49:22 (p. 296)
x2845	S	JK 3:14 fl.	G	pp. 319, 333
x2846	U	JK 3:14 fl.	G	p. 343
x2847	S	JK 3:15 (pit)	G	Fig. 252:35, Pl. 70:18 (pp. 329, 336)
x2850	S	JK 3:15 (pit)	G	cf. Fig. 252:1 (pp. 326, 335)
x2852	Po	JK 3:14	G	Fig. 235:10 (pp. 272, 294)
x2853	M	JK 3:14	G	p. 314
x2854	F	JK 3:14	G	Fig. 246:14 (pp. 315–16, 534)
x2856	B	JK 3:14	G	cf. Fig. 256:2 (p. 338)
x2857	B	JK 3:14	G	Fig. 256:5, Pl. 74:1 (p. 338)
x2858	B	JK 3:14	G	cf. Fig. 256:3 (p. 338)
x2863	U	JK 3:14	G	Pl. 78:14 (p. 343)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x2873	Po	JK 3:14	G	Fig. 235:11 (pp. 270, 294)
x2874	Na	JK 3:14	G	p. 344
x2875	Po	JK 3:14	G	cf. Fig. 237 (pp. 294)
x2876	Po	JK 3:14	G	Fig. 237:4, Pl. 51:3 (p. 294)
x2877	B	JK 3:14	G	Fig. 256:12, Pl. 74:10 (p. 338)
x2878	B	JK 3:14	G	p. 338
x2880	M	JK 3:14	G	cf. Fig. 239:1–3 (pp. 298, 313)
x2881	S	JK 3:14	G	cf. Fig. 252:6 (pp. 326, 335)
x2882	U	JK 3:14	G	Fig. 258:2, Pl. 78:3 (pp. 342, 394)
x2884	Pv	JK 3:12	H	Fig. 271:1, Pl. 26:4 (p. 352)
x2885–86	Pv	JK 3:12 fl.	G	cf. Fig. 203:1 (p. 265)
x2887	Pv	JK 3:11 (pit)	H	Fig. 282:2, Pl. 33:1 (p. 361)
x2888	Pv	JK 3:11 (pit)	H	cf. Fig. 203:11 (p. 352)
x2889	Pv	JK 3:13	G	Fig. 207:9 (pp. 270, 272)
x2890	Pv	JK 3:12 fl.	G	cf. Fig. 223:10 (p. 284)
x2891	Pv	JK 3:13	G	Fig. 223:8, Pl. 30:1 (p. 284)
x2892	Pv	JK 3:12 fl.	G	Fig. 223:6, Pl. 30:2 (pp. 268, 283)
x2893	Pv	JK 3:12 fl.	G	Fig. 219:2, Pl. 29:1 (p. 276)
x2895	Pv	JK 3:14	G	Fig. 234, Pl. 33:9 (pp. 294, 361)
x2896	Pv	JK 3:10	H	Fig. 282:4 (p. 364)
x2897	Pv	JK 3:14 fl.	G	cf. Fig. 223:4 (p. 283)
x2898	Pv	JK 3:14 fl.	G	cf. Fig. 203:1 (p. 265)
x2899	Pv	JK 3:12 fl.	G	cf. Fig. 203:11 (p. 270)
x2900:1	Pv	JK 3:14/1 (fl.)	G	Fig. 228:1, Pl. 26:1 (pp. 291, 344)
x2900:2	Pv	JK 3:14/1 (fl.)	G	cf. Fig. 228:1 (pp. 291, 344)
x2900:3	Pv	JK 3:14/1 (fl.)	G	Fig. 203:11 (pp. 270, 344)
x2900:4	Pv	JK 3:14/1 (fl.)	G	Fig. 223:2 (pp. 283, 344)
x2900:5	Pv	JK 3:14/1 (fl.)	G	p. 344
x2900:6	Pv	JK 3:14/1 (fl.)	G	cf. Fig. 207:9 (pp. 270, 344)
x2900:7	Pv	JK 3:14/1 (fl.)	G	cf. Fig. 203:1 (pp. 265, 344)
x2900:8	Pv	JK 3:14/1 (fl.)	G	p. 344
x2901	Pv	JK 3:14	G	cf. Fig. 207:9 (p. 270)
x2902	Po	JK 3:8	H	Fig. 289:1 (p. 372)
x2903	Po	TT 20 XIV	G or H	pp. 294, n. 12, 372
x2916	S	JK 3:15?	G	cf. Fig. 252:14 (pp. 327, 335)
x2917	S	JK 3:15?	G	cf. Fig. 252:6 (pp. 326, 335)
x2918	B	JK 3:15?	G	Fig. 256:13 (p. 340)
x2924	S	JK 3:14	G	Pl. 71:4 (pp. 327, 336)
x2925	S	JK 3:14	G	Pl. 71:7 (pp. 329, 336)
x2926	Po	JK 3:14	G	cf. Fig. 238:2 (p. 296)
x2927	Po	JK 3:14	G	Fig. 238:4, Pl. 49:19 (p. 296)
x2928	B	JK 3:14	G	cf. Fig. 256:3 (p. 338)
x2929	B	JK 3:14	G	p. 337, n. 41
x2931	B	JK 3:14	G	cf. Fig. 256:3 (p. 338)
x2952	F	JK 3:15	G	Fig. 246:9 (p. 534)
x2954	Po	JK 3:15	G	Fig. 237:2 (p. 294)
x2955	S	JK 3:15	G	cf. Fig. 252:12 (pp. 327, 335)
x2956	S	JK 3:15	G	Pl. 70:5 (pp. 327, 335)
x2958–59	Po	JK 3:15	G	p. 294, n. 12
x2960*a–c*	M	JK 3:15	G	p. 314
x2961	M	JK 3:15	G	Fig. 239:13, Pl. 52:13 (pp. 298, 314)
x2962	M	JK 3:15	G	Fig. 239:11, Pl. 53:4 (pp. 298, 314)
x2971	S	JK 3:15	G	Fig. 250:7 (pp. 323 f., 334)
x2972	S	JK 3:15	G	cf. Fig. 252:3 (pp. 326, 335)
x2973	S	JK 3:15	G	Fig. 253:9 (pp. 331, 337)
x2974	Po	JK 3:13	G	Fig. 236:1 (pp. 63, n. 15, 296, 490)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x2976	B	JK 3:11 (pit)	H	Pl. 73:10 (p. 391)
x2977	M	JK 3:11 (pit)	H	Fig. 292:8 (pp. 376, 379)
x3000	B	JK 3:16	G	Fig. 256:3 (p. 338)
x3002	B	JK 3:16	G	p. 337, n. 41
x3008	S	JK 3:16	G	Fig. 248:2 (pp. 319, 321, n. 26, 334)
x3009	Na	JK 3:16	G	p. 344
x3015	Pv	JK 3:14	G	cf. Fig. 203:1 (p. 265)
x3016	Pv	JK 3:14 fl.	G	cf. Fig. 203:1 (p. 265)
x3017	Pv	JK 3:14 fl.	G	Fig. 207:5, Pl. 26:9 (p. 270)
x3018	Pv	JK 3:14 fl.	G	Fig. 207:4 (p. 270)
x3019	Pv	JK 3:14 fl.	G	cf. Fig. 207:7 (p. 268)
x3020	Pv	JK 3:14 fl.	G	cf. Fig. 203:11 (p. 268)
x3021	Pv	JK 3:14 fl.	G	cf. Fig. 223:4 (p. 283)
x3022	Pv	JK 3:14 fl.	G	Fig. 203:12 (p. 268)
x3023	Pv	JK 3:14 fl.	G	Fig. 223:4, Pl. 30:5 (p. 283)
x3024	M, Pv	JK 3:15	G	Fig. 207:12 (pp. 207, 296, 314)
x3025	Pv	JK 3:15	G	Fig. 207:6 (pp. 270)
x3026	Pv	JK 3:15	G	cf. Fig. 207:5 (p. 270)
x3027	Pv	JK 3:15	G	Fig. 223:3 (p. 283)
x3028	Pv	JK 3:15	G	Fig. 219:1, Pl. 29:2 (p. 276)
x3029	Pv	JK 3:15	G	Fig. 223:7 (pp. 283, 285)
x3030	Pv	JK 3:15	G	Fig. 223:1 (pp. 282, 285)
x3031	Pv	JK 3:15	G	Fig. 223:11, Pl. 30:3 (p. 284)
x3032	Pv	JK 3:15	G	Fig. 207:10 (p. 270)
x3033	Pv	JK 3:15	G	Fig. 216, Pl. 32:13 (p. 274)
x3034	Pv	JK 3:15	G	Fig. 207:7, Pl. 26:5 (p. 268)
x3036	S	JK 3, unstrat.	?	Fig. 375:5 (pp. 478 f., 492)
x3039	U	JK 3:16	G	p. 343
x3041	S	JK 3:16	G	Fig. 251:6 (pp. 324, 335)
x3042	B	JK 3:16	G	cf. Fig. 193:1 (p. 337)
x3043	B	JK 3:16	G	Pl. 74:17 (p. 338)
x3044	Po	JK 3:16	G	Fig. 237:5 (p. 294)
x3045	S	JK 3:16	G	pp. 321, 344
x3048	M	JK 3:16	G	Fig. 239:6 (pp. 298, 314)
x3053	Na	JK 3:16 (pit)	G	p. 344
x3054	M	JK 3:16 or 17	G	Pl. 53:7 (pp. 298, 314)
x3055	S	JK 3:16 or 17	G	cf. Fig. 252:31 (pp. 329, 336)
x3056	S	JK 3:16 or 17	G	Fig. 253:2 (pp. 329, 337)
x3057	Po	JK 3:16 or 17	G	Fig. 238:1, Pl. 49:20 (p. 296)
x3058	S	JK 3:16 or 17	G	cf. Fig. 252:5 (pp. 326, 335)
x3059	S	JK 3:16 or 17	G	cf. Fig. 252:6 (pp. 326, 335)
x3060	S	JK 3:16 or 17	G	Fig. 250:6 (pp. 323 f., 334)
x3061	B	JK 3:16 or 17	G	Fig. 257, Pl. 77:5 (pp. 340 f.)
x3067	F	JK 3:16 or 17	G	Fig. 246:10 (p. 534)
x3069	F	JK 3:17	G	Pl. 66:6 (pp. 318, 535)
x3079	S	JK 3:17	G	pp. 324, 335
x3080	B	JK 3:17	G	Pl. 72:15 (p. 338)
x3081	B	JK 3:17	G	cf. Fig. 256:5 (p. 338)
x3082	U	JK 3:17	G	Pl. 78:17 (p. 342)
x3083	S	JK 3:17	G	cf. Fig. 252:6 (pp. 326, 335)
x3084	B	JK 3:17	G	cf. Fig. 256:10 (p. 338)
x3085	B	JK 3:17	G	p. 338
x3086	S	JK 3:17	G	cf. Fig. 252:6 (pp. 326, 335)
x3091	B	JK 3:17	G	cf. Fig. 193:1 (p. 337)
x3092	B	JK 3:17	G	cf. Pl. 72:6 (p. 337)
x3093	M	JK 3:17	G	p. 314

Field No.	Gross Category	Findspot	Phase of Findspot	References
x3094–95	F	JK 3:17/1	G	p. 344
x3096	B	JK 3:17/1	G	Pl. 75:8 (pp. 340 f., 344)
x3097	B	JK 3:17/1	G	cf. Fig. 256:3 (pp. 338, 344)
x3098	M	JK 3:17/1	G	Fig. 239:5, Pl. 52:7 (pp. 298, 313, 344)
x3099	Na	JK 3:17/1	G	pp. 343–44
x3100	M	JK 3:17/1	G	pp. 314, 344
x3101	S	JK 3:17/1	G	Fig. 250:3, Pl. 68:4 (pp. 323 f., 334, 344)
x3106	B	JK 3:17	G	Pl. 76:6 (pp. 337, n. 42, 340)
x3108	Po	JK 3:17	G	Fig. 237:3, Pl. 51:2 (p. 294)
x3109	S	JK 3:17	G	Fig. 252:27, Pl. 70:19 (pp. 327, 336)
x3110	S	JK 3:17/1	G	Fig. 250:2, Pl. 68:1 (pp. 323 f., 334, 344)
x3112	F	JK 3:17/1	G	p. 344
x3113	S	JK 3:17/1	G	p. 344
x3114	S	JK 3, unstrat.	?	Fig. 377:1, Pl. 68:9 (pp. 479 f., 493)
x3116	S	JK 3:17	G	Fig. 254:5 (pp. 333, 337)
x3119	F	JK 3:17	G	Fig. 246:6 (p. 535)
x3122	Po	JK 3:17	G	Fig. 237:7, Pl. 51:5 (p. 294)
x3123	S	JK 3:17	G	Fig. 252:3 (pp. 326, 335)
x3124	S	JK 3:17	G	Fig. 252:19 (pp. 327, 335)
x3125	S	JK 3:17	G	Fig. 250:4, Pl. 68:2 (pp. 323 f., 334)
x3129	F	JK 3:17	G	Fig. 246:1 (p. 533)
x3131	S	JK 3:17	G	Fig. 249:10, Pl. 69:2 (pp. 321, 334)
x3133	Po	JK 3:17	G	Fig. 237:8 (p. 294)
x3134	Po	JK 3:17	G	Fig. 237:9 (p. 294)
x3135	S	JK 3:17	G	Fig. 252:2 (pp. 326, 335)
x3136	S	JK 3:17	G	cf. Fig. 252:12 (pp. 327, 335)
x3137	S	JK 3:17	G	Fig. 252:24 (pp. 327, 336)
x3138	S	JK 3:17	G	pp. 319, 334
x3139	S	JK 3:17	G	cf. Fig. 249:13 (pp. 323, 334)
x3140	S	JK 3:17	G	cf. Fig. 249:2 (pp. 321, n. 26, 334)
x3141	B	JK 3:17	G	cf. Fig. 256:3 (p. 338)
x3142	Na	JK 3:17	G	p. 344
x3143	M	JK 3:17	G	p. 298
x3147	F	JK 3:17	G	Fig. 246:3 (pp. 473, 533)
x3163	S	JK 3:17	G	pp. 321, 334
x3164	S	JK 3:17	G	pp. 319, 321, 334
x3166	Na	JK 3:17	G	p. 344
x3167	S	JK 3:17	G	Fig. 247:2, Pl. 67:1 (pp. 318, 333)
x3168	B	JK 3:17	G	Pl. 72:7 (p. 338)
x3169	M	JK 3:17	G	cf. Fig. 239:1–3 (pp. 298, 314)
x3170	S	JK 3:17	G	Fig. 252:22 (pp. 327, 335)
x3171	S	JK 3:17	G	Fig. 252:1 (pp. 326, 335)
x3172	S	JK 3:17	G	Fig. 252:12 (pp. 327, 335)
x3173	S	JK 3:17	G	cf. Fig. 252:4 (pp. 326, 335)
x3174	S	JK 3:17	G	cf. Fig. 252:11 (pp. 327, 335)
x3175	S	JK 3:17	G	Fig. 253:3 (pp. 329, 337)
x3176	S	JK 3:17	G	Pl. 71:5 (pp. 327, 336)
x3182*b*	S	JK 3:17	G	Fig. 249:13 (pp. 323, 334)
x3183*a*	B	JK 3:17	G	p. 338
x3184*a*	S	JK 3:17	G	Fig. 255:1, Pl. 71:13 (pp. 333, 337)
x3184*b*	S	JK 3:17	G	Fig. 252:9 (pp. 326, 335)
x3185	Po	JK 3:17	G	cf. Fig. 238:4 (p. 296)
x3186	S	JK 3:17	G	Fig. 252:13 (pp. 327, 335)
x3187	S	JK 3:17	G	cf. Fig. 252:8 (pp. 326, 335)
x3188	S	JK 3:17	G	Fig. 255:3 (pp. 333, 337)
x3189	S	JK 3:17	G	pp. 321, 334

Field No.	Gross Category	Findspot	Phase of Findspot	References
x3190	S	JK 3:17	G	cf. Fig. 249:5 (pp. 321, 334)
x3191	S	JK 3:17	G	Fig. 249:5 (pp. 321, 334)
x3193	S	JK 3:17	G	Fig. 253:5 (pp. 329, 337)
x3202	S	JK 3:18	G	pp. 319, 334
x3204	S	JK 3:18	G	pp. 321, 334
x3205	S	JK 3:18	G	Fig. 252:29 (pp. 327, 336)
x3206	S	JK 3:18	G	Fig. 252:7 (pp. 326, 335)
x3207	S	JK 3:18	G	pp. 326, 335
x3209	S	JK 3:18	G	Fig. 250:5 (pp. 323 f., 334)
x3214	B	JK 3:18	G	cf. Fig. 193:1 (p. 337)
x3215	Po	JK 3:18	G	Fig. 237:10 (p. 294)
x3217	B	JK 3:18	G	p. 338
x3218–20	Pv	JK 3:17	G	cf. Fig. 215:3–4 (p. 274)
x3221	S	JK 3:18	G	Fig. 252:33 (pp. 329, 336)
x3222–23	Pv	JK 3:15	G	cf. Fig. 203:11 (p. 270)
x3224	Pv	JK 3:16	G	Fig. 207:11 (pp. 270, 272)
x3225	Pv	JK 3:16	G	cf. Fig. 223:4 (p. 283)
x3226–27	Pv	JK 3:16	G	cf. Fig. 223:7 (p. 283)
x3228	Pv	JK 3:17	G	Fig. 223:9 (p. 284)
x3229	Pv	JK 3:17	G	Fig. 223:10 (p. 284)
x3230	Pv	JK 3:17	G	Fig. 207:8, Pl. 26:6 (p. 268)
x3231	Pv	JK 3:17	G	Fig. 223:5 (p. 283)
x3232	Pv	JK 3:17	G	Fig. 203:3 (p. 265)
x3233	Pv	JK 3:17	G	cf. Fig. 203:1 (p. 265)
x3234	Pv	JK 3:17	G	Fig. 203:10 (p. 268)
x3235–36	Pv	JK 3:17	G	cf. Fig. 207:5 (p. 270)
x3237	Pv	JK 3:17	G	Fig. 203:9 (p. 270)
x3238	Pv	JK 3:17	G	cf. Fig. 203:5 (p. 268)
x3240	Pv	JK 3:17	G	Fig. 203:4 (p. 268)
x3241	S	JK 3:18	G	Fig. 253:11 (pp. 331, 337)
x3246	S	JK 3:18	G	Fig. 250:10 (pp. 323 f., 334)
x3247	S	JK 3:18	G	Fig. 251:2 (pp. 324, 335)
x3248	S	JK 3:18	G	pp. 321, 334
x3249	Po	JK 3:18	G	Fig. 235:1 (p. 294)
x3250*a–b*	M	JK 3:18	G	p. 314
x3251	S	JK 3:18	G	Fig. 252:16 (pp. 327, 335)
x3252	B	JK 3:18	G	p. 338
x3253	B	JK 3:18	G	cf. Fig. 256:3 (p. 338)
x3254	B	JK 3:18	G	Fig. 256:4 (pp. 337–38)
x3255	B	JK 3:18	G	Pl. 76:2 (pp. 337, n. 42, 340)
x3256	S	JK 3:18	G	Fig. 252:26 (pp. 327, 336)
x3257	S	JK 3:18	G	cf. Fig. 252:11 (pp. 327, 336)
x3258	B	JK 3:18	G	Pl. 74:13 (p. 338)
x3261	S	JK 3:18	G	Fig. 250:9 (pp. 323 f., 334)
x3262	Po	JK 3:18	G	Fig. 237:6, Pl. 51:4 (p. 294)
x3263	U	JK 3:18	G	p. 343
x3264	M	JK 3:18	G	p. 314
x3265	S	JK 3:18	G	pp. 325, 335
x3266	S	JK 3:18	G	cf. Fig. 252:6 (pp. 326, 336)
x3271	B	JK 3:18	G	cf. Fig. 256:3 (p. 338)
x3272	B	JK 3:18	G	cf. Pl. 74:13 (p. 338)
x3273	S	JK 3:18	G	cf. Fig. 252:6 (pp. 326, 336)
x3274	S	JK 3:18	G	Fig. 254:2 (pp. 331, 337, 488, n. 15)
x3275	M	JK 3:18	G	Fig. 239:8 (pp. 298, 314)
x3276	S	JK 3:18	G	cf. Pl. 71:7 (pp. 329, 336)
x3277	B	JK 3:18	G	Pl. 76:14 (p. 338)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x3278	F	JK 3:16	G	Pl. 66:4 (p. 316)
x3282	F	JK 3:18	G	Fig. 246:12 (pp. 315–16, 534)
x3284	F	JK 3:18	G	Fig. 246:7 (p. 535)
x3286	S	JK 3:18	G	Fig. 248:4 (pp. 321, 334)
x3287	Po	JK 3:18	G	Fig. 237:11, Pl. 51:11 (p. 294)
x3288	S	JK 3:18	G	Fig. 249:4, Pl. 69:15 (pp. 321, 334)
x3289	S	JK 3:18	G	cf. Fig. 252:24 (pp. 327, 336)
x3290	S	JK 3:18	G	Fig. 253:7 (pp. 329, 337)
x3291	S	JK 3:18	G	cf. Fig. 252:11 (pp. 327, 336)
x3292	S	JK 3:18	G	cf. Fig. 252:12 (pp. 327, 336)
x3293	S	JK 3:18	G	cf. Fig. 252:6 (pp. 326, 336)
x3295	S	JK 3:18	G	Fig. 252:6 (pp. 326, 336)
x3296	S	JK 3, unstrat.	?	Fig. 375:1 (pp. 478 f., 492)
x3298	B	JK 3:18	G	Fig. 256:2 (p. 338)
x3299*b*	B	JK 3:18	G	cf. Fig. 256:3 (p. 338)
x3300	S	JK 3:18	G	pp. 324, 335
x3301	S	JK 3:18	G	Fig. 252:14 (pp. 327, 336)
x3302	S	JK 3:18	G	cf. Fig. 252:5 (pp. 326, 336)
x3304	F	JK 3:18	G	Fig. 246:4 (pp. 316, 533–34)
x3307	B	JK 3:19	G	Pl. 72:6 (p. 337)
x3308	B	JK 3:19	G	cf. Fig. 256:4 (p. 338)
x3309	S	JK 3:19	G	Fig. 252:32, Pl. 71:12 (pp. 329, 336)
x3310	Po	JK 3:19	G	Fig. 237:12 (p. 294)
x3311	M	JK 3:19	G	Fig. 239:10 (pp. 298, 314)
x3315	S	JK 3:19	G	Fig. 247:3 (pp. 318 f., 333)
x3316	M	JK 3:19	G	Fig. 239:12 (pp. 298, 314)
x3317	S	JK 3:19	G	Fig. 253:12 (pp. 331, 337)
x3318	S	JK 3:19	G	Fig. 254:3 (pp. 331, 337, 488, n. 15)
x3319	B	JK 3:19	G	cf. Fig. 256:5 (pp. 337–38)
x3320	M	JK 3:19	G	p. 315
x3321	B	JK 3:19	G	Pl. 77:7 (p. 341)
x3327	S	JK 3:19	G	pp. 319, 333
x3328	S	JK 3:19	G	Fig. 253:6 (pp. 329, 337)
x3331	B	JK 3:19	G	cf. Fig. 256:5 (p. 338)
x3334	S	JK 3:19	G	cf. Fig. 252:14 (pp. 327, 336)
x3337	S	JK 3:19	G	cf. Fig. 252:7 (pp. 326, 336)
x3338	S	JK 3:19	G	Fig. 253:4 (pp. 329, 337)
x3339	S	JK 3:19	G	Fig. 250:8 (pp. 323 f., 334)
x3342	S	JK 3:19	G	Fig. 249:8 (pp. 321, 334)
x3343	S	JK 3:19	G	Pl. 69:3 (pp. 321, 334)
x3344	S	JK 3:19	G	pp. 326, 335
x3345	B	JK 3:19	G	cf. Fig. 193:1 (p. 337)
x3346	S	JK 3, unstrat.	?	Fig. 376:1 (pp. 479, 493)
x3347	B	JK 3:19	G	cf. Fig. 193:1 (p. 337)
x3348	S	JK 3:19	G	Fig. 249:6 (pp. 321, 334)
x3349	S	JK 3:19	G	Fig. 249:9 (pp. 321, 334)
x3350	S	JK 3:19	G	Fig. 252:21 (pp. 327, 336)
x3351	S	JK 3:19	G	Pl. 71:9 (pp. 329, 336)
x3353	Pv	JK 3:18	G	Fig. 228:2 (p. 291)
x3354	Pv	JK 3:19	G	Fig. 203:1 (p. 265)
x3355	Pv	JK 3:19	G	cf. Fig. 203:1 (p. 265)
x3356	Pv	JK 3:19 fl.	G	Fig. 228:3 (pp. 288, 343)
x3357	Pv	JK 3:19	G	Fig. 228:4 (pp. 288, n. 11, 343)
x3358	Pv	JK 3:16	G	cf. Fig. 223:4 (p. 283)
x3359	Pv	JK 3:17/1	G	Fig. 207:1 (pp. 268, 344)
x3360	Pv	JK 3:17/1	G	Pl. 26:3 (pp. 268, 270, 344)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x3361	Pv	JK 3:17/1	G	Fig. 207:2 (pp. 268, 344)
x3362	Pv	JK 3:17/1	G	Fig. 203:8 (pp. 268, 344)
x3367	Pv	JK 3:17	G	Fig. 203:6 (p. 267)
x3369	S	JK 3, unstrat.	?	Fig. 383:1 (pp. 492, 494)
x3375	S	JK 3:19	G	Fig. 255:2, Pl. 71:18 (pp. 333, 337)
x3376	S	JK 3:19	G	Fig. 252:18 (pp. 327, 336)
x3377	S	JK 3:19	G	pp. 319, 333
x3378	B	JK 3:19	G	Fig. 256:6 (p. 338)
x3382	Po	JK 3:19	G	Fig. 238:3 (p. 296)
x3383	B	JK 3:19 fl.	G	cf. Fig. 256:4 (pp. 337–38)
x3384	B	JK 3:19 fl.	G	cf. Fig. 193:1 (p. 337)
x3385	B	JK 3:19 fl.	G	p. 338
x3386	S	JK 3:19 fl.	G	cf. Fig. 252:21 (pp. 327, 336)
x3387	S	JK 3:19 fl.	G	pp. 319, 333
x3388	S	JK 3:19 fl.	G	Fig. 249:11 (pp. 321, 334)
x3391	S	JK 3:19 fl.	G	Fig. 254:4 (pp. 331, n. 40, 333, 337, 488, n. 15)
x3392	S	JK 3:19 fl.	G	cf. Fig. 252:3 (pp. 326, 336)
x3393	S	JK 3:19 fl.	G	Fig. 252:8 (pp. 326, 336)
x3394	Po	JK 3:19 fl.	G	Fig. 238:5, Pl. 49:28 (p. 296)
x3395	B	JK 3:19 fl.	G	cf. Fig. 256:4 (p. 338)
x3396	B	JK 3:19 fl.	G	Fig. 256:7 (p. 338)
x3397	Po	JK 3:19 fl.	G	Fig. 235:5, Pl. 48:6 (p. 294)
x3398	S	JK 3:19 fl.	G	Fig. 249:3 (pp. 321, 334)
x3399	S	JK 3:19 fl.	G	pp. 319, 333
x3404	M	JK 3:19 fl.	G	Fig. 239:3 (pp. 298, 314)
x3406	S	JK 3:19	G	Fig. 253:1 (pp. 329, 337)
x3407	S	JK 3:19	G	Fig. 252:23 (pp. 327, 336)
x3408	S	JK 3:19	G	Fig. 252:31, Pl. 71:10 (pp. 329, 336)
x3409	S	JK 3:19	G	Pl. 70:17 (pp. 329, 336)
x3410	M	JK 3:20	G	Fig. 239:14 (pp. 298, 315)
x3412	Po	JK 3:20	G	Fig. 237:13, Pl. 51:13 (p. 294)
x3413	S	JK 3:19 fl. or 20	G	cf. Fig. 252:1 (pp. 326, 336)
x3414	S	JK 3:19 fl. or 20	G	Pl. 70:10 (pp. 327, 336)
x3415	M	JK 3:19 fl. or 20	G	Fig. 239:9, Pl. 53:5 (pp. 298, 314)
x3416	S	JK 3:19 fl. or 20	G	pp. 324, 335
x3421	S	JK 3:19 fl. or 20	G	Fig. 253:13 (pp. 331, 337)
x3422	F	JK 3:19 fl. or 20	G	Pl. 65:17 (p. 316)
x3440	B	JK 3:19	G	Pl. 74:8 (pp. 337–38)
x3441	S	JK 3:19	G	cf. Fig. 252:31 (pp. 329, 336)
x3442	B	JK 3:20	G	cf. Fig. 256:4 (p. 338)
x3443	B	JK 3:20	G	Pl. 74:6 (p. 338)
x3445	B	JK 3:20	G	Fig. 256:8 (p. 338)
x3446	S	JK 3:20	G	Fig. 251:8 (pp. 324, 335)
x3447	S	JK 3:20	G	Fig. 248:3 (pp. 319 f., 334)
x3448	S	JK 3:20	G	Fig. 249:2, Pl. 69:11 (pp. 321, 334)
x3449	U	JK 3:20	G	Fig. 258:1, Pl. 78:1 (pp. 341 f.)
x3457	S	JK 3:20	G	Fig. 247:1 (pp. 318, 333)
x3458	Pv	JK 3:20	G	Fig. 207:3 (p. 270)
x3459	B	JK 3:20	G	Fig. 256:9, Pl. 74:14 (p. 338)
x3460	B	JK 3:20	G	p. 338
x3461	S	JK 3:20	G	Fig. 252:11 (pp. 327, 336)
x3463	S	JK 3:20	G	cf. Fig. 252:5 (pp. 326, 336)
x3468	S	JK 3:20	G	Fig. 251:4 (pp. 324, 335)
x3470	S	JK 3:20	G	pp. 324, 334
x3471	Po	JK 3:20 (pit)	G	p. 294, n. 12
x3480	B	JK 3:20 (pit)	G	Pl. 74:5 (p. 338)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x3481	B	JK 3:20 (pit)	G	cf. Fig. 256:7 (p. 338)
x3482	S	JK 3:20 (pit)	G	Fig. 252:34 (pp. 329, 336)
x3483	S	JK 3:20 (pit)	G	Fig. 252:28 (pp. 327, 336)
x3485	F	TT 20 XIV 3	G	Fig. 246:8 (p. 316)
x3486	M	JK 3:20	G	Fig. 239:2, Pl. 52:8 (pp. 298, 314)
x3487	B	JK 3:20	G	cf. Fig. 256:3 (p. 338)
x3498	S	JK 3:20	G	p. 323, n. 28
x3499	M, Pv	JK 3:20	G	pp. 296, 314
x3507	Po	JK 3:20	G	p. 294, n. 12
x3508	B	JK 3:20	G	Pl. 77:2 (p. 341)
x3509	S	JK 3:20	G	Fig. 253:10 (pp. 331, 337)
x3510	S	JK 3:20	G	Pl. 70:21 (pp. 329, 336)
x3511	S	JK 3:20	G	Pl. 70:7 (pp. 327, 336)
x3512	S	JK 3:20	G	Fig. 252:17 (pp. 327, 336)
x3513	Po	JK 3:20	G	Pl. 49:23 (p. 296)
x3514	S	JK 3:20	G	Pl. 70:22 (pp. 329, 336)
x3515	S	JK 3, unstrat.	?	Fig. 376:2 (pp. 479, 493)
x3516	Po	JK 3:20 fl. or pit	G	Fig. 235:13 (p. 296)
x3527	S	JK 3:20 (pit)	G	Fig. 253:8 (pp. 331, 337)
x3528	B	JK 3:20	G	Pl. 73:1 (p. 338)
x3529	B	JK 3:20	G	Fig. 256:1 (p. 338)
x3530	B	JK 3:20	G	cf. Fig. 256:4 (p. 338)
x3531	M	JK 3:20	G	Fig. 239:4 (pp. 298, 314)
x3532	S	JK 3,20	G	Fig. 252:20 (pp. 327, 336)
x3533	S	JK 3:20	G	cf. Fig. 252:3 (pp. 326, 336)
x3535	S	JK 3:20	G	pp. 321, 334
x3546	S	JK 3:21	F	Fig. 190:11, Pl. 71:8 (pp. 252, 255)
x3547	S	JK 3:21	F	Fig. 190:8 (pp. 252, 255)
x3548	M	JK 3:21	F	p. 245
x3556	S	JK 3:20	G	Fig. 252:5 (pp. 326, 336)
x3557	S	JK 3:20	G	Fig. 252:25 (pp. 327, 337)
x3558	B	JK 3:20	G	Fig. 256:11, Pl. 74:15 (p. 338)
x3559	B	JK 3:21	F	Pl. 74:3 (p. 256)
x3560	S	JK 3:21	F	pp. 250, 255
x3561	S	JK 3:21	F	Fig. 189:1 (pp. 250, 255)
x3562	B	JK 3:20 or 21	G or F	Pl. 77:3 (pp. 256, n. 26, 340–41)
x3563	B	JK 3:20 or 21	G or F	Pl. 77:1 (pp. 256, n. 26, 337, n. 42, 340–41)
x3584	F	JK 3:21	F	Fig. 186:10 (pp. 245, 247, 535)
x3585	F	JK 3:21	F	Fig. 186:4 (p. 534)
x3587	S	JK 3:21	F	Pl. 67:12 (pp. 252, 255)
x3588	S	JK 3:21	F	Fig. 192:1 (pp. 253, 256)
x3589	Po	JK 3:21	F	Fig. 184:3 (p. 244)
x3590*a*	S	JK 3:9 (pit)	H	Fig. 295:2 (pp. 383, 389)
x3590*b*	M	JK 3:9 (pit)	H	Fig. 292:4 (pp. 373, 379)
x3591	B	JK 3:9 (pit)	H	p. 390, n. 30
x3593	B	JK 3:9 (pit)	H	p. 390, n. 30
x3598	F	TT 20 XIV 3	G	Fig. 246:11 (p. 533)
x3601	Pv	JK 3:19 fl.	G	cf. Fig. 207:3 (p. 270)
x3602	Pv	JK 3:19 fl.	G	cf. Fig. 203:4 (p. 268)
x3603	Pv	JK 3:19 fl.	G	Fig. 203:7 (p. 268)
x3604	Pv	JK 3:20	G	cf. Fig. 203:5 (p. 268)
x3605	Pv	JK 3:20	G	Fig. 219:3, Pl. 29:4 (pp. 272, 276)
x3606	Pv	JK 3:20	G	cf. Fig. 203:5 (p. 268)
x3607	Pv	JK 3:20	G	Fig. 203:5 (p. 268)
x3608	Pv	JK 3:20	G	cf. Fig. 203:4 (p. 268)
x3610	Pv	TT 20 XIV 4	H	cf. Figs. 207:9 and 269:24, 26, 27 (p. 352)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x3612	S	JK 3:21	F	Fig. 191:7 (pp. 253, 256)
x3614	B	JK 3:21	F	p. 256
x3622	S	TT 20 XIV 1	G	Fig. 252:30, Pl. 71:2 (pp. 329, 337)
x3636	S	TT 20 XIV 1	G	cf. Fig. 252:6 (pp. 326, 336)
x3640	S	TT 20 XIV 4	H	cf. Fig. 296:3 (pp. 385, 390)
x3641	S	TT 20 XIV 4	H	cf. Fig. 296:2 (pp. 385, 390)
x3642	S	TT 20 XIV 4	H	cf. Fig. 296:7 (pp. 385, 390)
x3643	S	TT 20 XIV 4	H	cf. Fig. 296:2 (pp. 385, 390)
x3644	B	JK 3:21	F	Fig. 193:10 (p. 258)
x3645	S	JK 3:21	F	cf. Fig. 190:4 (pp. 252, 255)
x3646	Po	JK 3:21	F	Pl. 49:27 (p. 244)
x3647	M	JK 3:21	F	Fig. 185:1 (p. 245)
x3648–49	B	JK 3:21	F	p. 256
x3651	F	JK 3:21	F	Fig. 186:9 (pp. 245, 247, 534)
x3653	F	JK 3:21	F	Pl. 65:8 (p. 247)
x3661	F	JK 3:21	F	Fig. 186:1 (pp. 247, 533–34)
x3670	F	JK 3:21	F	Fig. 186:5 (p. 534)
x3678	M	TT 20 XIV 3	G	p. 296, n. 14
x3681	F	TT 20 XIV 3	G	Fig. 246:5 (p. 534)
x3682	S	TT 20 XIV 3	G	Fig. 251:9 (pp. 326, 335)
x3683	S	JK 3:21	F	Fig. 191:2 (pp. 253, 256)
x3684	B	JK 3:21	F	Fig. 193:3 (p. 256)
x3685	M	JK 3:21	F	Fig. 185:6, Pl. 52:1 (p. 245)
x3686	U	JK 3:21	F	Fig. 194, Pl. 78:8 (p. 258)
x3687	S	JK 3:21	F	Fig. 188:3 (pp. 250, 255)
x3695	S	JK 3:21	F	Fig. 188:1 (pp. 249 f., 255)
x3700	F	JK 3:21	F	Fig. 186:3 (p. 534)
x3706	F	JK 3:22	F	Fig. 186:7 (p. 535)
x3725	Na	JK 3:22	F	p. 258
x3726	S	JK 3:22	F	Fig. 191:1 (pp. 253, 256)
x3727	B	JK 3:22	F	Fig. 193:7, Pl. 76:7 (p. 258)
x3729	S	JK 3:22	F	Fig. 187:5 (pp. 249, 255)
x3730	S	JK 3:22	F	pp. 252, 255
x3731	M	JK 3:22	F	cf. Fig. 185:2 (p. 245)
x3732	M	JK 3:22	F	Fig. 185:2 (p. 245)
x3733	B	JK 3:22	F	Fig. 193:2 (p. 257)
x3734	Po	JK 3:22	F	Fig. 184:4, Pl. 49:15 (p. 244)
x3735	Po	JK 3:20	G	Fig. 235:12, Pl. 49:14 (p. 296)
x3736	S	TT 20 XIV 1	G	p. 323, n. 28
x3746	B	JK 3:22	F	Fig. 193:8 (p. 258)
x3747	B	TT 20 XIV 2	G	Pl. 76:1 (pp. 337, n. 42, 340)
x3751	S	TT 20 XIV 1	G	Fig. 252:4 (pp. 326, 336)
x3761	F	JK 3:22	F	Fig. 186:2 (pp. 247, 533)
x3767	S	JK 3:22	F	Fig. 189:5 (pp. 252, 255)
x3769	S	JK 3:22	F	Fig. 188:2 (pp. 250, 255)
x3770–71	M	JK 3:22	F	cf. Fig. 185:2 (p. 245)
x3772	S	JK 3:22	F	Fig. 190:2 (pp. 252, 255)
x3773	S	JK 3:22	F	Fig. 190:1 (pp. 252, 255)
x3774	S	JK 3:22	F	Fig. 187:1 (pp. 249, 255)
x3775	S	JK 3:22	F	Fig. 191:6 (pp. 253, 256)
x3776	S	JK 3:22	F	Fig. 191:5 (pp. 253, 256)
x3777	M	JK 3:22	F	Fig. 185:4, Pl. 53:12 (p. 245)
x3778	B	JK 3:22	F	Fig. 193:5, Pl. 74:11 (p. 256)
x3779	B	JK 3:22	F	Fig. 193:4, Pl. 74:2 (p. 256)
x3780	B	JK 3:22	F	Fig. 193:1 (p. 256)
x3781	M	JK 3:22	F	Fig. 185:3, Pl. 52:5, (p. 245)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x3782	M	JK 3:22	F	Fig. 185:7, Pl. 54:3 (p. 245)
x3783	Po	JK 3:22	F	Fig. 184:2 (p. 244)
x3784	S	JK 3:22	F	Fig. 192:3, Pl. 71:19 (pp. 255–56)
x3785	S	JK 3:22	F	Fig. 190:7 (pp. 252, 255)
x3787	S	JK 3:22	F	Fig. 190:6 (pp. 252, 255)
x3788–89	S	JK 3:22	F	cf. Fig. 190:2 (pp. 252, 255)
x3790	S	JK 3:22	F	Fig. 190:5 (pp. 252, 255)
x3791	S	JK 3:22	F	cf. Fig. 190:1 (pp. 252, 255)
x3792	S	JK 3:22	F	Fig. 191:8 (pp. 253, 256)
x3793	S	JK 3:22	F	Fig. 189:4, Pl. 69:13 (pp. 252, 255)
x3794	F	JK 3:22	F	Fig. 186:8 (pp. 247, 535)
x3795	F	JK 3:22	F	Pl. 65:10 (p. 247)
x3816	M	JK 3:22	F	Fig. 185:5, Pl. 54:1 (p. 245)
x3817	S	JK 3:22	F	Fig. 187:4 (pp. 249, 255)
x3818	S	JK 3:22	F	Fig. 192:2, Pl. 71:20 (pp. 253, 256)
x3819	S	JK 3:22	F	Fig. 191:4 (pp. 253, 256)
x3820	S	JK 3:22	F	Fig. 191:3 (pp. 253, 256)
x3821	S	JK 3:22	F	Fig. 189:2 (pp. 250, 255)
x3831	F	JK 3:22	F	Pl. 65:7 (p. 247)
x3836	M	JK 3:22	F	cf. Fig. 185:3 (p. 245)
x3837	S	JK 3:22	F	Fig. 187:2 (pp. 249, 255)
x3838	B	JK 3:22	F	Fig. 193:9 (p. 258)
x3839	S	JK 3:22	F	Fig. 190:3 (pp. 252, 255)
x3840	S	JK 3:22	F	Fig. 190:9 (pp. 252, 255)
x3857	S	JK 3:22	F	Fig. 190:10, Pl. 70:20 (pp. 252, 255)
x3859	S	JK 3:22	F	p. 253, n. 24
x3860–62	S	JK 3:22	F	cf. Fig. 190:2 (pp. 252, 255)
x3866	F	JK 3:22	F	Fig. 186:6 (p. 535)
x3872	S	JK 3:22 fl.	1 M.R.	Fig. 101:7 (pp. 130, 132)
x3873	B	JK 3:22 fl.	1 M.R.	Pl. 73:4 (p. 133)
x3874	M	JK 3:22 fl.	1 M.R.	Fig. 93:3 (pp. 119–20)
x3876	S	JK 3:22 fl.	1 M.R.	cf. Fig. 102 (pp. 130, 132)
x3877	S	JK 3:22 fl.	1 M.R.	Fig. 100:15 (pp. 128 f., 132)
x3878	Po	JK 3:22 fl.	1 M.R.	Fig. 92:4 (p. 118)
x3879	U	JK 3:22 fl.	1 M.R.	Fig. 104, Pl. 78:9 (p. 135)
x3880	S	JK 3:22 fl.	1 M.R.	Fig. 99:3, Pl. 71:25 (pp. 127 f., 132)
x3881	S	JK 3:22 fl.	1 M.R.	Fig. 99:2 (pp. 127 f., 132)
x3895*b*	B	JK 3:22 fl.	1 M.R.	Pl. 73:13 (p. 133)
x3896*a*	F	JK 3:22 fl.	1 M.R.	Fig. 94:16 (p. 532)
x3896*b*	Po	JK 3:22 fl.	1 M.R.	p. 118
x3897*b*	M	JK 3:22 fl.	1 M.R.	p. 119
x3898*b*	B	JK 3:22 fl.	1 M.R.	Fig. 103:1 (p. 133)
x3899	S	JK 3:22 fl.	1 M.R.	pp. 124, 131
x3900	S	JK 3:22 fl.	1 M.R.	Fig. 101:1 (pp. 129, 132)
x3901	B	JK 3:22 fl.	1 M.R.	Pl. 75:3 (p. 133)
x3903	S	JK 3:22 fl.	1 M.R.	Fig. 98:4 (pp. 125, 132)
x3904	Po	JK 3:22 fl.	1 M.R.	Fig. 92:8, Pl. 49:9 (p. 119)
x3917	F	JK 3:22 fl.	1 M.R.	Fig. 94:11 (pp. 120, 531)
x3921	F	JK 3:22 fl.	1 M.R.	Pl. 65:2 (p. 120)
x3930	B	JK 3:22 fl.	1 M.R.	Fig. 101:4 (pp. 133, 135)
x3931	S	JK 3:22 fl.	1 M.R.	cf. Fig. 100:4 (pp. 128, 132)
x3932	S	JK 3:22 fl.	1 M.R.	Fig. 100:4 (pp. 128, 132)
x3933	S	JK 3:22 fl.	1 M.R.	Pl. 70:16 (pp. 129, 132)
x3935	S	JK 3:22 fl.	1 M.R.	Pl. 71:24 (pp. 127 f., 132)
x3937	S	JK 3:22 fl.	1 M.R.	pp. 124, 131
x3946	F	JK 3:22 fl.	1 M.R.	Fig. 94:3 (pp. 120, 531)
x3955	S	JK 3, unstrat.	?	Fig. 376:3 (pp. 479, 493)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x3956	B	JK 3:23	1 M.R.	cf. Fig. 103:1 (p. 133)
x3957	B	JK 3:23	1 M.R.	Fig. 103:4, Pl. 76:9 (p. 133)
x3958	S	JK 3:23	1 M.R.	Fig. 101:3 (pp. 129, 132)
x3959	S	JK 3:23	1 M.R.	Pl. 71:1 (pp. 128 f., 132)
x3960	S	JK 3:23	1 M.R.	Fig. 100:13 (pp. 128 f., 132)
x3961	S	JK 3:23	1 M.R.	Fig. 100:5 (pp. 128, 132)
x3962	S	JK 3:23	1 M.R.	Fig. 96:6, Pl. 67:8 (pp. 123, 131)
x3966	F	JK 3:23	1 M.R.	Fig. 94:14 (p. 532)
x4000	S	JK 3:23	1 M.R.	Fig. 101:2 (pp. 129, 132)
x4002	S, B	JK 3:22	F	e.g. Figs. 190:4, 193:6; cf. Fig. 190:2 (pp. 252, 255, 256, 258)
x4005	S	JK 3:23	1 M.R.	Fig. 100:12 (pp. 128 f., 132)
x4006	S	JK 3:23	1 M.R.	Fig. 100:10 (pp. 129, 132)
x4013	B	JK 3, unstrat.	?	Pl. 75:12 (pp. 494, 496)
x4014	Po	JK 3, unstrat.	?	cf. Fig. 289:2 (p. 466)
x4015	Po	JK 3, unstrat.	?	cf. Fig. 368:3 (p. 466)
x4016	S	JK 3, unstrat.	?	Fig. 379:9 (pp. 484, 494)
x4017–18	B	JK 3:23	1 M.R.	cf. Fig. 103:1 (p. 133)
x4019	S	JK 3:23	1 M.R.	Fig. 96:4 (pp. 123, 131)
x4020	S	JK 3:23	1 M.R.	Fig. 99:4 (pp. 127 f., 132)
x4021	S	JK 3:23	1 M.R.	pp. 124, 131
x4022	S	JK 3:23	1 M.R.	Fig. 97:2 (pp. 124, 131)
x4023	S	JK 3:23	1 M.R.	Fig. 99:1 (pp. 127 f., 132)
x4024	M	JK 3:23	1 M.R.	Fig. 93:1, Pl. 52:6 (pp. 119–20)
x4025	S	JK 3:23	1 M.R.	pp. 128, 132
x4026	S	JK 3:23	1 M.R.	cf. Fig. 100:1 (pp. 128, 132)
x4027	S	JK 4:23	1 M.R.	Fig. 100:1 (pp. 128, 132)
x4028	S	JK 3:23	1 M.R.	p. 128, n. 14
x4029	S	JK 3:23	1 M.R.	Fig. 100:11 (pp. 129, 132)
x4030	S	JK 3:23	1 M.R.	Fig. 102, Pl. 71:14 (pp. 130, 132)
x4031	Po	JK 3:23	1 M.R.	Fig. 92:1 (p. 118)
x4032	Po	JK 3:23	1 M.R.	p. 118, n. 12
x4037	F	JK 3:23	1 M.R.	Fig. 94:2 (pp. 120, 531)
x4041	F	JK 3:23	1 M.R.	Fig. 94:12 (p. 531)
x4046	F	JK 3:23	1 M.R.	Fig. 94:9 (p. 531)
x4047	F	JK 3:23	1 M.R.	Fig. 94:7 (pp. 120, 122, n. 13, 531)
x4057	Po	JK 3:23	1 M.R.	Fig. 92:9, Pl. 49:6 (p. 119)
x4074	F	JK 3:23	1 M.R.	Fig. 94:13 (p. 532)
x4077	F	JK 3:23	1 M.R.	Fig. 94:5 (pp. 120, 531)
x4087	F	JK 3:23	1 M.R.	Fig. 94:1 (pp. 120, 531)
x4089	F	JK 3:23	1 M.R.	Fig. 94:6 (pp. 120, 122, n. 13, 531)
x4107	Po	JK 3:23	1 M.R.	cf. Fig. 92;9 (p. 119)
x4108	B	JK 3:23	1 M.R.	Pl. 76:3 (p. 133)
x4109	Po	JK 3:23	1 M.R.	Fig. 92:5, Pl. 49:11 (p. 118)
x4110	S	JK 3:23	1 M.R.	Fig. 98:3, Pl. 69:9 (pp. 125, 131)
x4111	S	JK 3:23	1 M.R.	Fig. 97:3 (pp. 124, 131)
x4112	S	JK 3:23	1 M.R.	Fig. 97:5 (pp. 124, 131)
x4113	S	JK 3:23	1 M.R.	pp. 124, 131
x4119	F	JK 3:23	1 M.R.	Fig. 94:10 (p. 531)
x4124	F	JK 3:23	1 M.R.	Pl. 65:1 (p. 120)
x4127	S	JK 3:23	1 M.R.	Fig. 99:5 (pp. 127 f., 132)
x4128–29	Po	JK 3:23	1 M.R.	p. 118, n. 12
x4130	S	JK 3:23	1 M.R.	Fig. 101:6 (pp. 130, 132)
x4138	F	JK 3:23	1 M.R.	Fig. 94:15 (p. 532)
x4152	F	JK 3:23	1 M.R.	Fig. 94:4 (pp. 120, 531)
x4167	S	JK 3:23 fl.	1 M.R.	Fig. 98:6 (pp. 127, 132)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x4168	S	JK 3:23 fl.	1 M.R.	Fig. 98:5 (pp. 127, 132)
x4169	B	JK 3:23 fl.	1 M.R.	Fig. 103:2 (p. 133)
x4171	S	JK 3:23 fl.	1 M.R.	e.g. Fig. 100:2–3 (pp. 128, 132)
x4172	Po	JK 3:23 fl.	1 M.R.	Fig. 92:7, Pl. 48:12 (p. 118)
x4173	B	JK 3:23 fl.	1 M.R.	Pl. 75:5 (p. 133)
x4174	B	JK 3:23 fl.	1 M.R.	Pl. 72:11 (p. 133)
x4175	B	JK 3:23 fl.	1 M.R.	Fig. 103:3, Pl. 74:19 (p. 133)
x4176	Po	JK 3:23 fl.	1 M.R.	Fig. 92:3, Pl. 50:4 (p. 118)
x4177	S	JK 3:23 fl.	1 M.R.	Fig. 100:14 (pp. 129, 132)
x4178	S	JK 3:23 fl.	1 M.R.	pp. 128, 132
x4179	S	JK 3:23 fl.	1 M.R.	pp. 124, 131
x4180	S	JK 3:23 fl.	1 M.R.	Fig. 97:4 (pp. 124, 131)
x4209	S	JK 3:23 fl.	1 M.R.	Fig. 96:7 (pp. 123, 131)
x4210	S	JK 3:23 fl.	1 M.R.	cf. Fig. 98:2 (pp. 124, 131)
x4211	S	JK 3:23 fl.	1 M.R.	Fig. 97:1 (pp. 124, 131)
x4212	S	JK 3:23 fl.	1 M.R.	Fig. 97:6 (pp. 124, 131)
x4213–14	B	JK 3:23 fl.	1 M.R.	cf. Fig. 103:1 (p. 133)
x4215	B	JK 3:23 fl.	1 M.R.	Pl. 75:4 (p. 133)
x4216	S	JK 3:23 fl.	1 M.R.	Fig. 101:5 (pp. 130, 132)
x4275	F	JK 3:23 fl.	1 M.R.	Fig. 94:8 (pp. 120, 531)
x4281*a*	M	JK 3:23	1 M.R.	Fig. 93:2 (pp. 119–20)
x4283*a*	B	JK 3:24	B	Fig. 70:4 (p. 97)
x4284*a*	B	JK 3:24	B	Pl. 72:8 (p. 97)
x4285*a*	B	JK 3:24	B	cf. Pl. 72:8 (p. 97)
x4286*a*	B	JK 3:24	B	Pl. 75:6 (p. 99)
x4287*a*	S	JK 3:24	B	Fig. 67:6 (pp. 92, 96)
x4287*b*	B	JK 3:24	B	cf. Pl. 75:6 (p. 99)
x4289*a*	S	JK 3:24	B	Fig. 64:1 (pp. 88, 95)
x4290*a*	S	JK 3:24	B	Fig. 64:2 (pp. 88, 95)
x4291*a*	S	JK 3:24	B	Fig. 66:2 (pp. 90 f., 96)
x4292*a*	S	JK 3:24	B	cf. Fig. 65:1–2 (pp. 90, 96)
x4293*a*	S	JK 3:24	B	cf. Fig. 65:2 (pp. 90, 96)
x4294*a*	S	JK 3:24	B	pp. 90, 96
x4295	S	JK 3:24	B	pp. 90, 96
x4296	S	JK 3:24	B	cf. Fig. 65:5 (pp. 90, 96)
x4299	S	JK 3:24	B	Fig. 66:6, Pl. 67:11 (pp. 92, 96)
x4339	F	JK 3:24	B	Fig. 59:9 (pp. 86, 526)
x4366	S	JK 3:24	B	Fig. 67:1 (pp. 92, 96)
x4367	Po	JK 3:24	B	Fig. 58:10, Pl. 49:21 (p. 83)
x4368	Po	JK 3:24	B	Fig. 58:5 (pp. 83 f.)
x4369	Po	JK 3:24	B	Fig. 58:4, Pl. 49:8 (pp. 83 f.)
x4370	S	JK 3:24	B	Fig. 66:4 (pp. 92, 96)
x4373	B	JK 3:24	B	Fig. 70:1 (p. 97)
x4374	B	JK 3:24	B	Pl. 72:5 (p. 97)
x4375	B	JK 3:24	B	p. 97
x4376	B	JK 3:24	B	Fig. 70:7 (p. 99)
x4378	B	JK 3:24	B	Fig. 70:3 (p. 97)
x4379	S	JK 3:24	B	p. 92, n. 7
x4380	Po	JK 3:24	B	Fig. 58:2 (p. 83)
x4381	Po	JK 3:24	B	Pl. 48:1 (p. 83)
x4382	S	JK 3:24	B	cf. Fig. 65:8–10 (pp. 90, 96)
x4383	S	JK 3:24	B	Pl. 69:4 (pp. 90, 96)
x4384	S	JK 3:24	B	cf. Fig. 65:8–10 (pp. 90, 96)
x4385	S	JK 3:24	B	Fig. 66:1 (pp. 90, 96)
x4386	S	JK 3:24	B	cf. Fig. 64:3–5 (pp. 88, 95)
x4387	S	JK 3:24	B	Fig. 65:1 (pp. 90, 96)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x4425	F	JK 3:24	B	Fig. 59:2 (p. 525)
x4439	F	JK 3:24	B	Fig. 59:3 (p. 525)
x4495	F	JK 3:24	B	Fig. 59:6 (pp. 86, 526)
x4505	F	JK 3:24	B	Fig. 59:11 (p. 426)
x4508	S	JK 3:24	B	Fig. 67:8 (pp. 92, 96)
x4509–13	B	JK 3:24	B	cf. Fig. 70:1–2 (p. 97)
x4514	B	JK 3:24	B	cf. Fig. 70:6 (p. 97)
x4515	B	JK 3:24	B	Fig. 70:6, Pl. 73:3 (p. 97)
x4516	U	JK 3:24	B	Pl. 78:2 (p. 99)
x4518	S	JK 3:24	B	Fig. 67:11 (pp. 94, 97)
x4519	S	JK 3:24	B	Fig. 65:9 (pp. 90, 96)
x4526	F	JK 3:24	B	Fig. 59:5 (pp. 86, 528)
x4581	F	JK 3:24	B	Fig. 59:15 (p. 527)
x4597	B	JK 3:24 fl.	B	cf. Fig. 70:1–2 (p. 97)
x4598	B	JK 3:24 fl.	B	Pl. 72:16 (p. 97)
x4599–4600	B	JK 3:24 fl.	B	cf. Fig. 70:1–2 (p. 97)
x4602	B	JK 3:24 fl.	B	p. 99
x4604	B	JK 3:24 fl.	B	p. 97, n. 9
x4606	S	JK 3:24 fl.	B	Fig. 66:7, Pl. 67:10 (pp. 92, 96)
x4607	S	JK 3:24 fl.	B	Fig. 65:3 (pp. 90, 96)
x4608	Po	JK 3:24 fl.	B	Fig. 58:11, Pl. 49:12 (p. 84)
x4609	S	JK 3:24 fl.	B	Fig. 69:2, Pl. 71:15 (pp. 94, 97)
x4610	S	JK 3:24 fl.	B	Fig. 67:3 (pp. 92, 96)
x4611	S	JK 3:24 fl.	B	Fig. 67:4 (pp. 92, 96)
x4612	S	JK 3:24 fl.	B	Fig. 67:7 (pp. 92, 96)
x4613	S	JK 3:24 fl.	B	Fig. 67:9, Pl. 70:14 (pp. 92, 97)
x4614	S	JK 3:24 fl.	B	Fig. 67:13, Pl. 70:12 (pp. 94, 97)
x4615	S	JK 3:24 fl.	B	Fig. 67:10 (pp. 92, 97)
x4616	S	JK 3:24 fl.	B	Fig. 67:12 (pp. 94, 97)
x4617*a*	Po	JK 3:24 fl.	B	Fig. 58:6, Pl. 49:10 (p. 83)
x4617*b*	Po	JK 3:24 fl.	B	Fig. 58:3 (p. 83)
x4618	S	JK 3:24 fl.	B	Fig. 65:8 (pp. 90, 96)
x4619	S	JK 3:24 fl.	B	cf. Fig. 65:1–2 (pp. 90, 96)
x4620	S	JK 3:24 fl.	B	cf. Fig. 64:1–2 (pp. 88, 95)
x4621	S	JK 3:24 fl.	B	Fig. 63:3 (pp. 88, 94)
x4622	S	JK 3:24 fl.	B	cf. Fig. 63 (pp. 87 f., 94)
x4623	S	JK 3:24fl.	B	cf. Fig. 64:1–2 (pp. 88, 95)
x4624	S	JK 3:24 fl.	B	Fig. 64:5 (pp. 88, 95)
x4634	F	JK 3:24 fl.	B	Fig. 59:1 (pp. 86, 525)
x4640	F	JK 3:24 fl.	B	Fig. 59:14 (p. 526)
x4672	S	JK 3:24 fl.	B	Fig. 68:2, Pl. 71:22 (pp. 94, 97)
x4673	S	JK 3:24 fl.	B	Fig. 68:1 (pp. 94, 97)
x4674–76	B	JK 3:24 fl.	B	cf. Fig. 70:1–2 (p. 97)
x4677	B	JK 3:24 fl.	B	Fig. 70:8 (p. 99)
x4678	B	JK 3:24 fl.	B	p. 97, n. 9
x4679	B	JK 3:24 fl.	B	cf. Fig. 70:1–2 (p. 97)
x4681	S	JK 3:24 fl.	B	Fig. 65:11, Pl. 68:5 (pp. 90, 96)
x4683	S	JK 3:24 fl.	B	Fig. 66:3 (pp. 90, 96)
x4684	S	JK 3:24 fl.	B	cf. Fig. 64:3–5 (pp. 88, 95)
x4685	Po	JK 3:24 fl.	B	cf. Fig. 58:2–3 (p. 83)
x4686	S	JK 3:24 fl.	B	p. 94, n. 8
x4691	F	JK 3:24 fl.	B	Fig. 59:4 (pp. 86, 528)
x4699	F	JK 3:24 fl.	B	Fig. 59:13 (p. 526)
x4739	F	JK 3:24 fl.	B	Fig. 59:7 (pp. 86, 526)
x4747	F	JK 3:24 fl.	B	Fig. 59:12 (p. 526)
x4755	F	JK 3:24 fl.	B	Fig. 59:10 (p. 527)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x4768	B	JK 3:24 fl.	B	cf. Fig. 70:1–2 (p. 97)
x4770	B	JK 3:24 fl.	B	p. 97, n. 9
x4771	B	JK 3:24 fl.	B	Fig. 70:9, Pl. 76:5 (p. 99)
x4774	Po	JK 3:24 fl.	B	cf. Fig. 58:2–3 (p. 83)
x4775	S	JK 3:24 fl.	B	Fig. 63:1, Pl. 68:16 (pp. 88, 94)
x4776	S	JK 3:24 fl.	B	Fig. 63:2, Pl. 68:15 (pp. 88, 94)
x4777	S	JK 3:24 fl.	B	cf. Fig. 65:5 (pp. 90, 96)
x4778	S	JK 3:24 fl.	B	Fig. 64:3 (pp. 88, 95)
x4779	S	JK 3:24 fl.	B	Fig. 65:4 (pp. 90, 96)
x4780	S	JK 3:24 fl.	B	pp. 87, 94
x4781	S	JK 3:24 fl.	B	cf. Fig. 65:2 (pp. 90, 96)
x4793	F	JK 3:24 fl.	B	Fig. 59:16 (pp. 55, 86, 527)
x4824	Po	JK 3:24 fl.	B	Fig. 58:7 (p. 83)
x4825	B	JK 3:24 fl.	B	cf. Fig. 70:1–2 (p. 97)
x4826	S	JK 3:24 fl.	B	Fig. 69:1, Pl. 71:16 (pp. 94, 97)
x4827	S	JK 3:24 fl.	B	Fig. 62:1 (pp. 86, 94)
x4829	M, S	JK 3:24 fl.	B	p. 84
x4865	F	JK 3:24 fl.	B	Fig. 59:8 (pp. 86, 526)
x4884	S	JK 3:25	B	cf. Fig. 64:4 (pp. 88, 96)
x4885	S	JK 3:25	B	Fig. 64:4, Pl. 69:16 (pp. 88, 96)
x4886	S	JK 3:25	B	Fig. 66:9 (pp. 92, 96)
x4887	S	JK 3:25	B	cf. Fig. 65:5 (pp. 90, 96)
x4889	S	JK 3:25	B	Fig. 67:2 (pp. 92, 97)
x4890	S	JK 3:25	B	Fig. 67:5 (pp. 92, 97)
x4891	S	JK 3:25	B	pp. 92, 96
x4892	S	JK 3:25	B	Fig. 65:2 (pp. 90, 96)
x4893	S	JK 3:25	B	Fig. 64:6 (pp. 88, 95)
x4894	S	JK 3:25	B	cf. Fig. 64:1–2 (pp. 88, 95)
x4895	S	JK 3:25	B	cf. Fig. 63 (pp. 87 f., 94)
x4896	B	JK 3:25	B	cf. Fig. 70:5 (p. 97)
x4897	B	JK 3:25	B	Fig. 70:5 (p. 97)
x4898	Pv	JK 3:21	F	Fig. 175:4 (p. 242)
x4899	Pv	JK 3:21	F	cf. Fig. 175:2 (p. 242)
x4900	Pv	JK 3:22 fl.	1 M.R.	cf. Fig. 172:1
x4901	Pv	JK 3:22	F	Fig. 172:1, Pl. 24:1 (p. 230)
x4902	Pv	JK 3:22	F	Fig. 172:2, Pl. 26:8 (p. 230)
x4903–4	Pv	TT 20 XIII 4	2 M.R.	cf. Fig. 362:1 (p. 460)
x4905	Pv	TT 20 XIV 4	H	cf. Fig. 358:1 (p. 361)
x4906	Pv	JK 3:23	1 M.R.	Fig. 74:3, Pl. 13:6 (pp. 108, 135)
x4907–8	Pv	JK 3:23	1 M.R.	cf. Fig. 45:2 (p. 108)
x4909	Pv	JK 3:23	1 M.R.	Figs. 80:3, 81:3, Pl. 13:3 (pp. 108–9)
x4910	Pv	JK 3:23	1 M.R.	Figs. 80:1, 81:1, Pl. 13:2 (pp. 108, 109, 135)
x4911	Pv	JK 3:23	1 M.R.	cf. Fig. 45:2 (p. 135)
x4912	Pv	JK 3:23	1 M.R.	cf. Fig. 74:3 (p. 135)
x4913	Pv	JK 3:23	1 M.R.	Figs. 80:2, 81:2, Pls. 13:7, 79 *H* (pp. 108–9, 136)
x4914	S	JK 3:23	1 M.R.	Fig. 96:5, Pl. 79 *H* (pp. 123, 131, 136)
x4915	B	JK 3:23	1 M.R.	Fig. 103:5, Pl. 79 *H* (pp. 133, 136)
x4916	S	JK 3:23	1 M.R.	e.g. Fig. 100:6–9, Pl. 79 *H* (pp. 128, 132, 136)
x4917	Pv	JK 3:24 fl.	B	Fig. 45:2, Pl. 13:5 (pp. 76, 99)
x4918–20	Pv	TT 20 XIV 4	H	cf. Fig. 271:1 (p. 352)
x4921	Pv	TT 20 XIII 4	2 M.R.	cf. Fig. 358:1 (p. 458)
x4922	Pv	JK 3:22	F	cf. Fig. 175:3 (pp. 241, 258)
x4923	Pv	JK 3:22	F	Fig. 175:3, Pl. 23:1 (pp. 241, 258)
x4925	Pv	JK 3:20	G	cf. Fig. 228:3 (p. 288)
x4926	B	JK 3:25	B	Pl. 75:10 (p. 99)
x4927	B	JK 3:25	B	p. 99

Field No.	Gross Category	Findspot	Phase of Findspot	References
x4928	S	JK 3:25	B	Pl. 70:15 (pp. 92, 97)
x4929	S	JK 3:25	B	Fig. 65:5 (pp. 90, 96)
x4930	S	JK 3:25	B	cf. Fig. 65:5 (pp. 90, 96)
x4931	S	JK 3:25	B	cf. Fig. 64:1–2 (pp. 88, 96)
x4932	S	JK 3:25	B	Fig. 65:6 (pp. 90, 96)
x4933	S	JK 3:25	B	pp. 88, 96
x4934	Na	JK 3:25	B	p. 99
x4935	Po	JK 3:25	B	Fig. 58:8, Pl. 48:5 (p. 83)
x4936	S	JK 3:25	B	cf. Fig. 65:8–10 (pp. 90, 96)
x4937	B	JK 3:25	B	cf. Fig. 70:1–2 (p. 97)
x4938	B	JK 3:28	A	Fig. 38:7 (p. 67)
x4939	B	JK 3:28	A	cf. Pl. 72:12 (cf. p. 66)
x4941	S	JK 3:25 fl.	A	cf. Fig. 34:4 (pp. 61, 64)
x4942	S	JK 3:25 fl.	A	Fig. 35:2 (pp. 61, 65)
x4943	S	JK 3:25 fl.	A	Fig. 36:8 (pp. 62, 65)
x4944–45	B	JK 3:25 fl.	A	cf. Fig. 38:1 (pp. 65 f.)
x4946	B	JK 3:25 fl.	A	cf. Fig. 38:2 (pp. 65 f.)
x4947	B	JK 3:25 fl.	A	Fig. 38:3 (pp. 65 f.)
x4948	B	JK 3:25 fl.	A	Pl. 75:11 (p. 67)
x4949	S	JK 3:25 fl.	A	Fig. 37:6 (pp. 63, 65)
x4950	S	JK 3:28	A	Fig. 32:1 (pp. 57, 64)
x4951	S	JK 3:25 fl.	A	Fig. 37:1 (pp. 63, 65)
x4952	S	JK 3:25 fl.	A	Fig. 37:4 (pp. 63, 65)
x4953	Pv	JK 3:25 fl.	A	Fig. 23, Pl. 13:1 (pp. 47, 50)
x4954	S	JK 3:25 fl.	A	Fig. 32:6 (pp. 57, 64)
x4955	S	JK 3:25 fl.	A	cf. Fig. 31:2 (pp. 55, 64)
x4956–58	S	JK 3:25 fl.	A	cf. Fig. 31:1 (pp. 55, 64)
x4959	S	JK 3:25 fl.	A	cf. Fig. 31:2 (pp. 55, 64)
x4960	S	JK 3:25 fl.	A	Fig. 35:3 (pp. 61, 65)
x4961	B	JK 3:25 fl.	A	Pl. 72:9 (p. 66)
x4962	B	JK 3:25 fl.	A	cf. Fig. 38:1–2 (pp. 65 f.)
x4963	B	JK 3:25 fl.	A	cf. Pl. 72:12 (p. 66)
x4964	B	JK 3:25 fl.	A	Pl. 73:8 (p. 67)
x4965	B	JK 3:25 fl.	A	Fig. 38:8 (p. 67)
x4966	B	JK 3:25 fl.	A	Fig. 38:9, Pl. 76:4 (p. 67)
x4967	S	JK 3:25 fl.	A	Fig. 36:1 (pp. 62, 65)
x4968	S	JK 3:25 fl.	A	Fig. 34:2 (pp. 60 f., 64)
x4969	S	JK 3:25 fl.	A	cf. Fig. 34:3 (pp. 60 f., 64)
x4970	S	JK 3:25 fl.	A	cf. Fig. 34:5 (pp. 61, 64)
x4971	S	JK 3:25 fl.	A	p. 58, n. 11
x4972*b*	S	JK 3:25 fl.	A	pp. 61, 64
x4973	S	JK 3:25 fl.	A	cf. Fig. 34:6 (pp. 61, 65)
x4974	S	JK 3:25 fl.	A	cf. Fig. 34:5 (pp. 61, 65)
x4975	S	JK 3:25 fl.	A	cf. Fig. 33:1, 3 (pp. 58, 64)
x4980	B	JK 3:25 fl.	A	Fig. 38:4, Pl. 73:2 (pp. 65, 67)
x4981	S	JK 3:25 fl.	A	Fig. 32:3 (pp. 57, 64)
x4982	S	JK 3:25 fl.	A	Fig. 32:2 (pp. 57, 64)
x4985	B	JK 3:25 fl.	A	Fig. 38:5 (p. 67)
x4986	B	JK 3:25 fl.	A	Pl. 76:10 (pp. 65, 67)
x4988	S	JK 3:25 fl.	A	cf. Fig. 34:5 (pp. 61, 65)
x4989	S	JK 3:25 fl.	A	Pl. 70:6 (p. 62, n. 13)
x4990	S	JK 3:25 fl.	A	Fig. 35:6 (pp. 62, 65)
x4992	S	JK 3:25 fl.	A	Fig. 37:2 (pp. 63, 65)
x4993	S	JK 3:26	A	cf. Fig. 31:2 (pp. 55, 64)
x4994–95	Na	JK 3:26	A	p. 67
x4996	S	JK 3:26	A	Fig. 35:5 (pp. 61 f., 65)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x4997	S	JK 3:26	A	Fig. 32:7 (pp. 57, 64)
x4998	S	JK 3:26	A	Fig. 36:3, Pl. 70:3 (pp. 62, 65)
x4999	S	JK 3:26	A	Fig. 36:4 (pp. 62, 65)
x5000	S	JK 3:26	A	Fig. 37:5 (pp. 63, 65)
x5001	B	JK 3:26	A	Fig. 38:1, Pl. 72:1 (pp. 65 f.)
x5002–3	B	JK 3:26	A	cf. Fig. 38:1 (pp. 65 f.)
x5004	B	JK 3:26	A	Pl. 72:12 (p. 66)
x5005	B	JK 3:26	A	cf. Pl. 72:12 (p. 66)
x5006	B	JK 3:26	A	cf. Fig. 38:5 (p. 67)
x5007	B	JK 3:26	A	cf. Pl. 72:9 (p. 66)
x5008	B	JK 3:26	A	Fig. 38:6 (p. 67)
x5009	S	JK 3:26	A	Fig. 34:7 (pp. 61, 65)
x5010	S	JK 3:26	A	Fig. 34:6 (pp. 61, 65)
x5011	S	JK 3:29	A	Fig. 34:5 (pp. 61, 65)
x5014	S	JK 3:26	A	Fig. 33:2 (pp. 58, 64)
x5015	S	JK 3:26	A	Fig. 34:3 (pp. 60 f., 64)
x5016	S	JK 3:26	A	cf. Fig. 33:1, 3 (pp. 58, 64)
x5017	B	JK 3:26	A	cf. Fig. 38:1 (pp. 65 f.)
x5018	S	JK 3:26	A	Fig. 34:1 (pp. 60, 64)
x5019	S	JK 3:26	A	pp. 60 f., 64
x5020	S	JK 3:26	A	cf. Fig. 34:3 (pp. 60 f., 64)
x5021	S	JK 3, cave-in	?	Fig. 379:6 (pp. 484, 494)
x5022	S	JK 3, cave-in	?	Fig. 376:5 (pp. 479, 493)
x5023	S	JK 3, cave-in	?	Fig. 376:4 (pp. 479, 493)
x5025	B	JK 3, cave-in	?	Fig. 384:3 (p. 494)
x5032	B	JK 3:25	B	Fig. 70:2, Pl. 72:2 (p. 97)
x5033	S	JK 3:26	A	Fig. 32:4, Pl. 67:4 (pp. 57, 64)
x5034	S	JK 3:26	A	p. 62, n. 13
x5035–36	Na	JK 3:26	A	p. 67
x5037	B	JK 3:26	A	cf. Fig. 38:1 (p. 65)
x5039	S	JK 3:26	A	Fig. 31:2 (pp. 55, 64)
x5040–41	S	JK 3:26	A	cf. Fig. 31:1 (pp. 55, 64)
x5042	S	JK 3:26	A	Pl. 69:19 (pp. 61, 65)
x5043	S	JK 3:26	A	Fig. 35:4, Pl. 69:18 (pp. 61, 65)
x5044	S	JK 3:26	A	Fig. 35:1 (pp. 61, 65)
x5045	S	JK 3:26	A	Fig. 33:3 (pp. 58, 64)
x5046	S	JK 3:26	A	pp. 58, 64
x5047	S	JK 3:26	A	pp. 61, 64
x5048	S	JK 3:26	A	Fig. 32:8, Pl. 67:2 (pp. 57, 64)
x5049	B	JK 3:26	A	Fig. 38:2 (pp. 65 f.)
x5050	S	JK 3:26 or 27	A	Fig. 33:1 (pp. 58, 64)
x5051	B	JK 3:26 or 27	A	Pl. 72:13 (pp. 65 f.)
x5052	B	JK 3:26 or 27	A	Pl. 73:6 (p. 67)
x5053	B	JK 3:26 or 27	A	cf. Pl. 72:12 (p. 66)
x5054	S	JK 3:27	A	Fig. 32:5 (pp. 57, 64)
x5055	S	JK 3:27	A	Fig. 34:4 (pp. 61, 65)
x5056	S	JK 3:27	A	Fig. 36:5, Pl. 70:9 (pp. 62, 65)
x5059	S	JK 3:27	A	Fig. 37:3, Pl. 71:23 (pp. 63, 65)
x5061	B	JK 3:27	A	cf. Fig. 38:1 (p. 65)
x5062	S	JK 3:27	A	Fig. 36:2 (pp. 62, 65)
x5063	B	JK 3, cave-in	?	cf. Figs. 193:5, 256:10 (pp. 256, n. 26, 494, 496)
x5064	S	JK 3, cave-in	?	Fig. 378:6 (pp. 483, 493)
x5065	M	JK 3:11/1	H	Fig. 293:3, Pl. 55:1 (pp. 313, 376, 395)
x5066	M	JK 3:11/1	H	Fig. 293:4, Pl. 55:3 (pp. 313, 376, 395)
x5067	M	JK 3:11/1	H	Fig. 293:1, Pl. 55:4 (pp. 373, 376, 395)
x5068	M	JK 3:11/1	H	Fig. 293:2, Pl. 55:2 (pp. 376, 395)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x5070	Pv	JK 3:25	B	Fig. 45:1 (p. 74)
x5071	S	JK 3:21	F	Fig. 189:3 (pp. 252, 255)
x5072	S	JK 3:24	B	Fig. 65:7 (pp. 90, 96)
x5073	S	JK 3:24	B	Fig. 62:5, Pl. 67:6 (pp. 87, 94)
x5074	S	JK 3:24 fl.	B	Fig. 62:2 (pp. 87, 94)
x5075	S	JK 3:24	B	Fig. 66:8 (pp. 92, 96)
x5076	S	JK 3:24	B	Fig. 62:3 (pp. 87, 94)
x5077	S	JK 3:24	B	Fig. 62:6 (pp. 87, 94)
x5078	S	JK 3:25	B	Fig. 62:4 (pp. 87, 94)
x5079	S	JK 3:23 fl.	1 M.R.	Fig. 98:2 (pp. 124 f., 132)
x5080	S	JK 3:23 fl.	1 M.R.	Fig. 96:1 (pp. 122 f., 131)
x5081	S	JK 3:23	1 M.R.	Fig. 96:2 (pp. 122 f., 131)
x5084	S	JK 3:23	1 M.R.	Fig. 96:9 (pp. 124, 131)
x5085	S	JK 3:23	1 M.R.	Fig. 96:3 (pp. 123, 131)
x5086	S	JK 3:22 fl.	1 M.R.	Fig. 96:8 (pp. 124, 131)
x5087	S	JK 3:22 fl.	1 M.R.	cf. Fig. 98:2 (pp. 124, 132)
x5088	S	JK 3:25	B	Fig. 65:10 (pp. 90, 96)
x5089	S	JK 3:22 fl.	1 M.R.	Fig. 98:1 (pp. 124, 131)
x5090	S	JK 3:22	F	Fig. 187:3 (pp. 249, 255)
x5091	S	JK 3:22	F	Fig. 187:7, Pl. 67:13 (pp. 249, 255)
x5092	S	JK 3:22	F	Fig. 187:6 (pp. 249, 255)
x5093	B	JK 3:6	I	Fig. 328:2 (p. 426)
x5094–95	Na	TT 20 X 1	2 M.R.	p. 497
x5099	S	JK 3:17	G	Fig. 250:3 (pp. 326, 335)
x5100	S	JK 3:14	G	Fig. 251:1 (pp. 326, 335)
x5101	S	JK 3:15	G	Fig. 247:4 (pp. 214, 319, 333)
x5102	S	JK 3:17	G	Fig. 247:5 (pp. 319, 333)
x5103	S	JK 3:11	H	Fig. 295:3 (pp. 383, 389)
x5104	S	JK 3:9	H	Fig. 295:1 (pp. 383, 388)
x5105*A–F*	M	TT 20 XIV 3	G	Figs. 240–45, Pls. 56–64 (pp. 296, 300–312, 315, 344)
x5105*G–N*	M	TT 20 XIV 3	G	Pl. 56c (pp. 313, 315)
x5105*O–X*	M	TT 20 XIV 3	G	p. 315
x5106–7	Po	JK 3:24	B	cf. Fig. 58:1 (p. 83)
x5108	Po	JK 3:25	B	Fig. 58:1 (p. 83)
x5109	Po	JK 3:25	B	cf. Fig. 58:2–3 (p. 83)
x5110	Po	JK 3:24 fl.	B	Fig. 58:9, Pl. 48:4 (p. 83)
x5111	Po	JK 3:23	1 M.R.	p. 118
x5112	Po	JK 3:23	1 M.R.	Fig. 92:2 (p. 118)
x5113	Po	JK 3:23	1 M.R.	cf. Fig. 92:1–2 (p. 118)
x5114	Po	JK 3:23 fl.	1 M.R.	Fig. 92:6 (p. 118)
x5115	Po	JK 3:23	1 M.R.	p. 118
x5116	Po	JK 3:17	G	Fig. 235:3 (p. 293)
x5117	Po	JK 3:17	G	Fig. 235:4, Pl. 48:3 (p. 294)
x5118	Po	JK 3:17	G	Fig. 235:2 (p. 294)
x5119	Po	JK 3:22	F	Fig. 184:1, Pl. 48:11 (p. 244)
x5120	Po	TT 20 XIII 4	2 M.R.	Fig. 368:1 (p. 470)
x5121	Pv	JK 3:22 fl.	1 M.R.	Fig. 74:1 (pp. 108–9)
x5122	Pv	JK 3:23	1 M.R.	Fig. 74:2 (p. 107)
x5124	S	JK 3:27	A	Fig. 31:1 (pp. 55, 64)
x5125	S	JK 3:25	B	Fig. 61 (pp. 86, 94)
x5126	S	JK 3:23	1 M.R.	Fig. 95 (pp. 122, 131)
x5127	S	JK 3:25	B	Fig. 66:5 (pp. 92, 96)
x5128	F	JK 3:27	A	Fig. 30:1 (pp. 55, 525)
x5129	F	JK 3:26	A	Fig. 30:3 (pp. 55, 525)
x5130	F	JK 3:26	A	Fig. 30:2, Pl. 65:13 (pp. 55, 525)

Field No.	Gross Category	Findspot	Phase of Findspot	References
x5131	F	JK 3:26	A	Fig. 30:8 (p. 526)
x5132	F	JK 3:25	A or B	Fig. 60:3 (p. 525)
x5133	F	JK 3:25	A or B	Fig. 60:2 (p. 525)
x5134	F	JK 3:25	A or B	Fig. 60:1 (p. 525)
x5139	F	JK 3:7	H	Fig. 294:5 (p. 535)
x5143	F	JK 3:26	A	Fig. 30:4 (pp. 55, 526)
x5144	F	JK 3:27	A	Fig. 30:5 (pp. 55, 526)
x5145	F	JK 3:26	A	Fig. 30:6 (pp. 55, 526)
x5146	F	JK 3:26	A	Fig. 30:7 (pp. 55, 526)
x5147	F	JK 3:8	H	Fig. 294:6 (pp. 247, n. 20, 381, 534)
x5148	F	JK 3:3	2 M.R.	Fig. 373:4 (p. 473)
x5149	F	JK 3:4	2 M.R.	Fig. 372:4 (p. 475)
x5150	F	JK 3:2	2 M.R.	Fig. 372:5 (p. 475)
x5151	F	JK 3:2	2 M.R.	Fig. 372:6 (p. 475)
x5153	F	JK 3:26	A	Fig. 30:9 (pp. 55, 527)
x5155	S	JK 3 (floor unknown)	H	Fig. 296:16 (pp. 385, 390)
x5156	S	JK 3:14	G	Fig. 251:7 (pp. 324, 335)
x5157*a*	S	JK 3:27	A	Pl. 68:8 (pp. 55, 64)
x5157*b*	S	JK 3:27	A	cf. Fig. 31:2 (pp. 55, 64)
x5157*c*	S	JK 3:27	A	cf. Fig. 31:1 (pp. 55, 64)
x5157*d*	S	JK 3:27	A	cf. Fig. 31:2 (pp. 55, 64)
x5157*e–f*	S	JK 3:27	A	cf. Fig. 31:1 (pp. 55, 64)
x5158	S	JK 3:25	B	cf. Fig. 61 (pp. 86, 94)
x5159	S	JK 3:28	A	cf. Fig. 31:1 (pp. 55, 64)
x5160*a*	S	JK 3:25 fl.	A	Pl. 69:17 (pp. 55, 64)
x5160*b–c*	S	JK 3:25 fl.	A	cf. Fig. 31:1 (pp. 55, 64)
x5161	S	JK 3:26	A	cf. Fig. 31:1 (pp. 55, 64)
x5162	S	JK 3:22 fl.	1 M.R.	pp. 122, 131
x5163	S	JK 3:23	1 M.R.	pp. 122, 131
x5164	S	JK 3:20	G	pp. 326, 335
x5165	U	?	G	Pl. 78:16 (p. 342)
x5166	Po	JK 3:6	I	Fig. 290:9 (pp. 400, 419)
x5167	Po	JK 3:6	I	Figs. 290:12, 291 *B* 3 (pp. 400, 419)
x5168	Po	JK 3:3	2 M.R.	Fig. 290:7 (p. 470)
x5169	Po	JK 3:3	2 M.R.	Fig. 290:13 (p. 470)
x5170	Po	JK 3:3	2 M.R.	Fig. 290:14 (p. 470)
x03423	S	Tulail al-Sharqi	?	Fig. 382:4 (pp. 487–88, 492, 494)
x03427	S	Tell Eshref al-Mai	?	Fig. 381:3 (pp. 487 f., 494)
y269	S	F 8:4	Q	Fig. 380:4 (pp. 484, 494)
y366	S	E 8:6	Q	Fig. 380:6 (pp. 484, 494)
z125	S	dump	?	Fig. 380:3 (pp. 484, 494)
z751	S	F 7:1	R or S	Fig. 379:7 (pp. 484, 494)
z899	S	F 7:3 or 4	P or Q	Fig. 382:3 (pp. 488, 490, 494)

GENERAL INDEX*

* [It should be noted that items which appear in the Table of Contents are not indexed unless there are additional pertinent references.—ED.]

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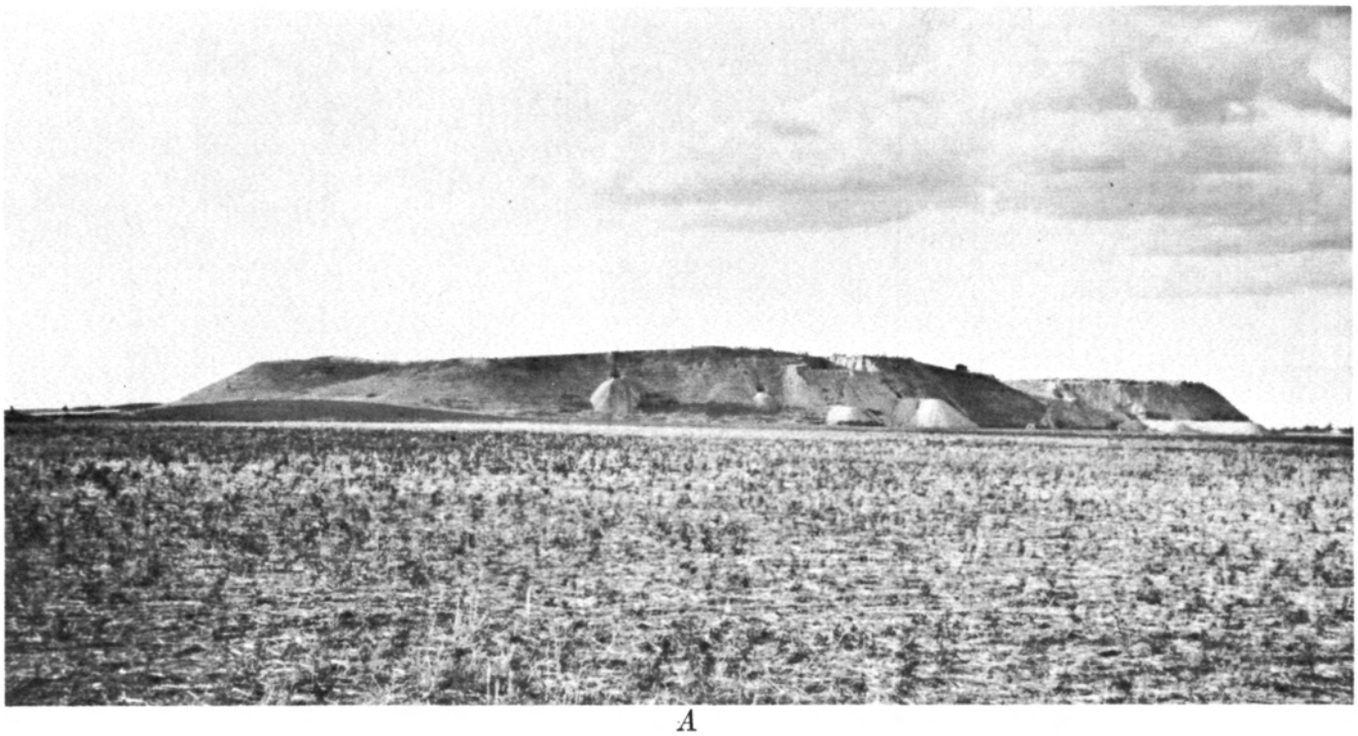
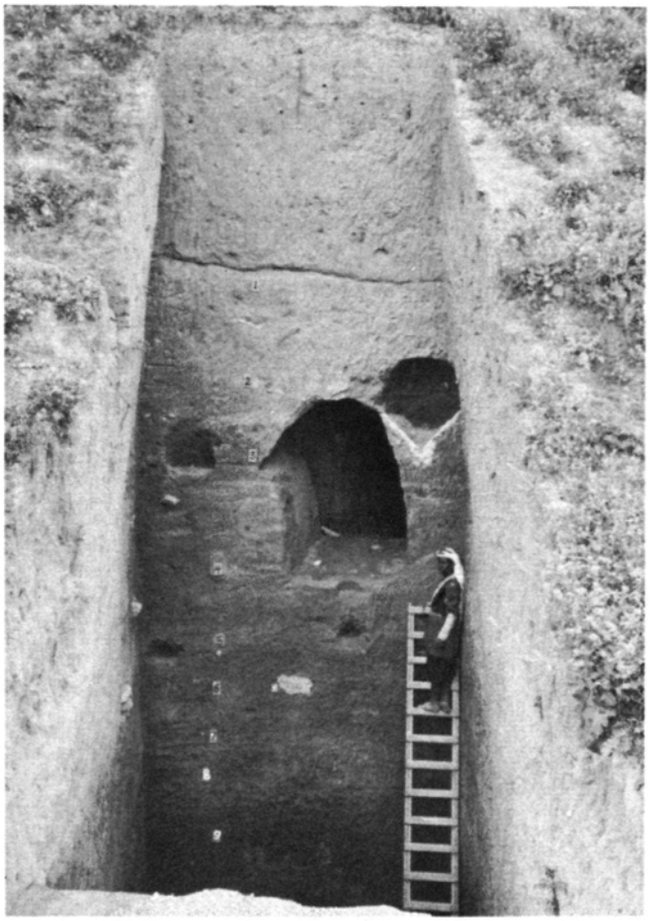
PLATES

General View of the ʿAmuq, Looking Northwest. Expedition House at Extreme Left, Town of Rihaniyyah at Left behind Tell Dhahab, Tell al-Judaidah at Right with Chatal Hüyük beyond It at Extreme Right

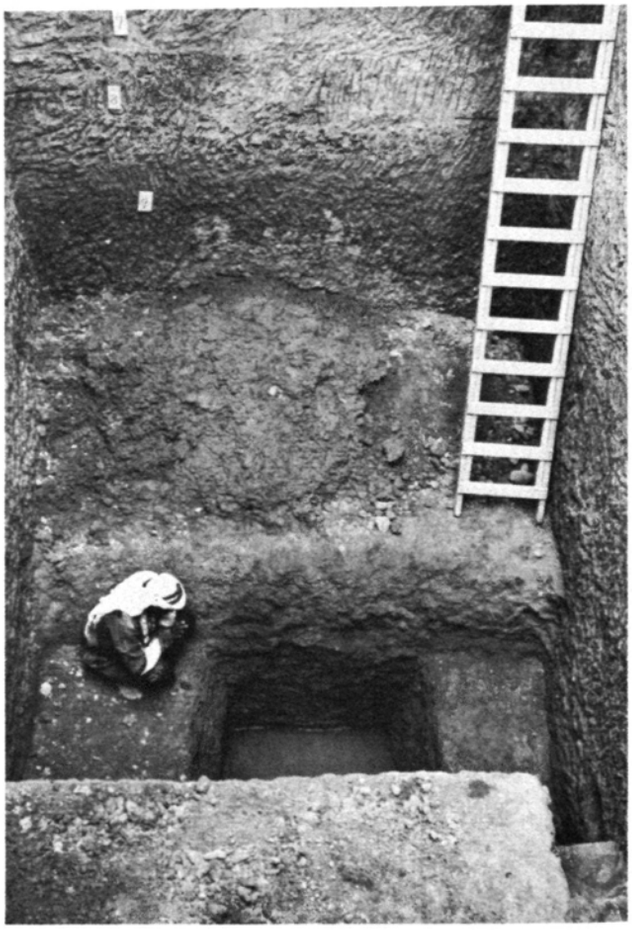
PLATE 2



A

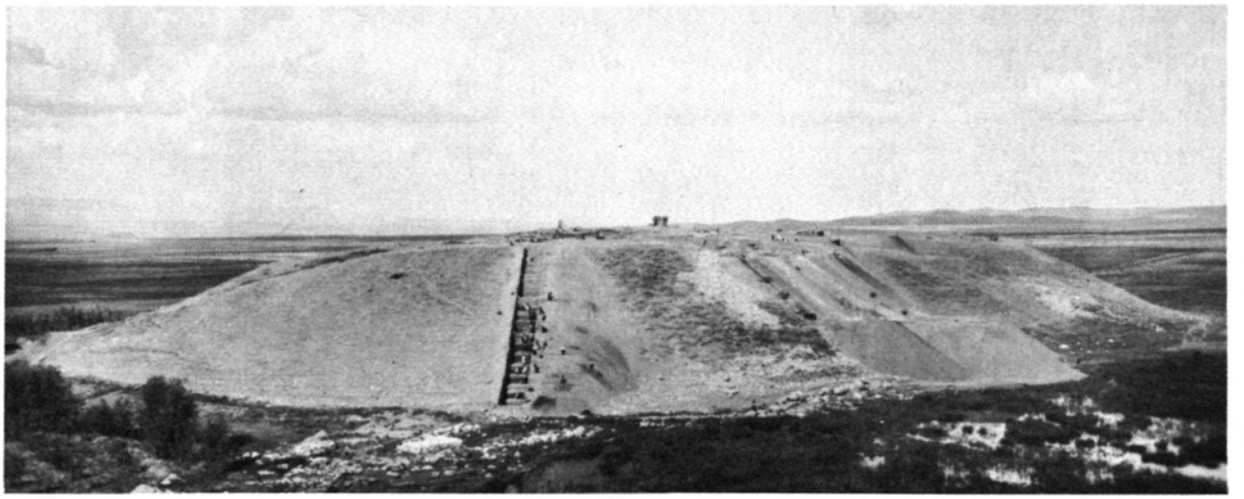


B

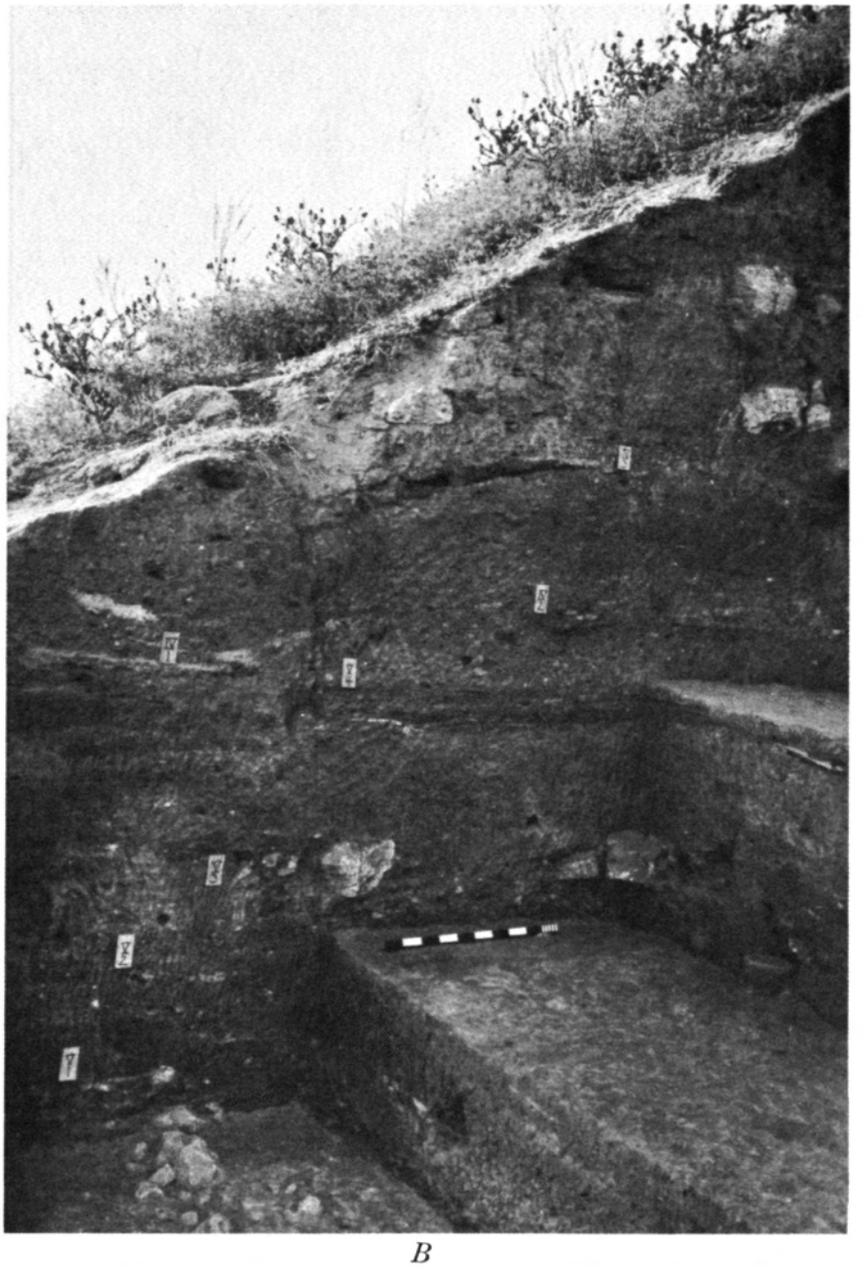


C

Chatal Hüyük. *A*. View from Southwest. *B*. W 16 Base Cut. *C*. W 16 Base Cut at Water Level



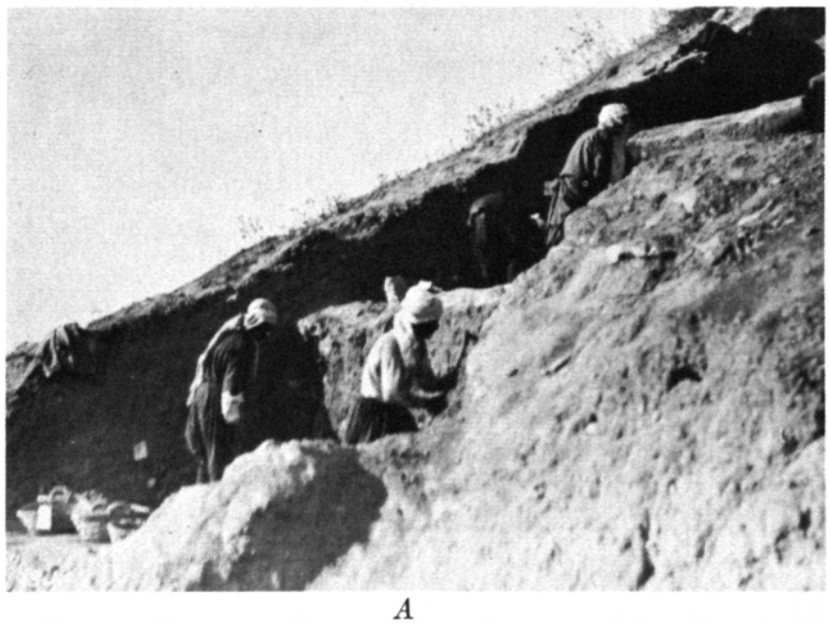
A



B

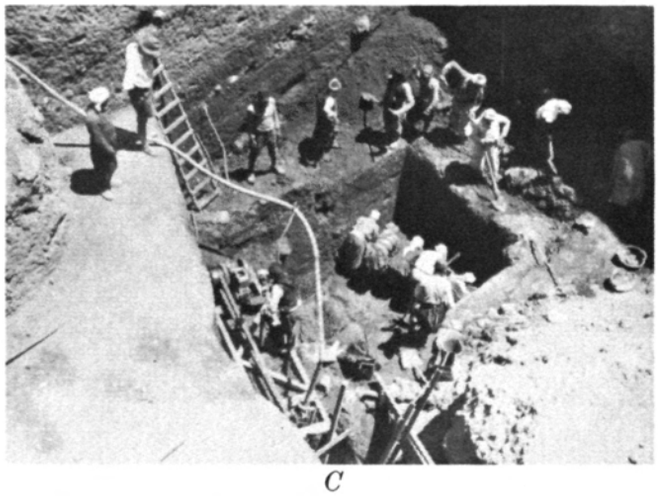
TELL AL-JUDAIDAH. *A*. VIEW FROM SOUTHWEST. *B*. DETAIL OF ONE VERTICAL SIDE OF STEP TRENCH TT 20

PLATE 4



A

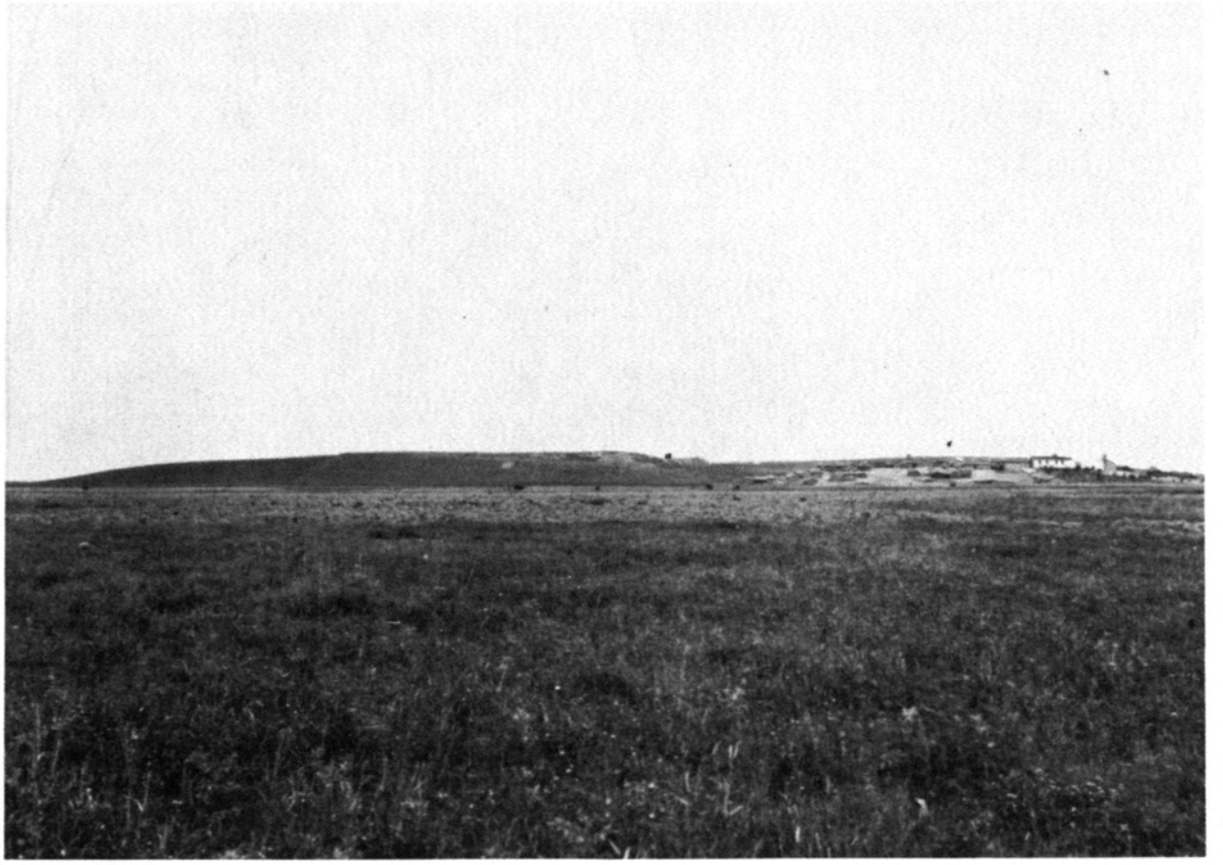
B



C

D

TELL AL-JUDAIDAH. *A*. OPERATIONS IN STEP TRENCH TT 20. *B*. SHERD YARD FOR TT 20. *C*. OPERATIONS IN JK 3, BELOW FLOOR 25, WITH AID OF PUMP. *D*. VIRGIN SOIL IN JK 3, SOME 2.5 M. BELOW GROUND-WATER LEVEL

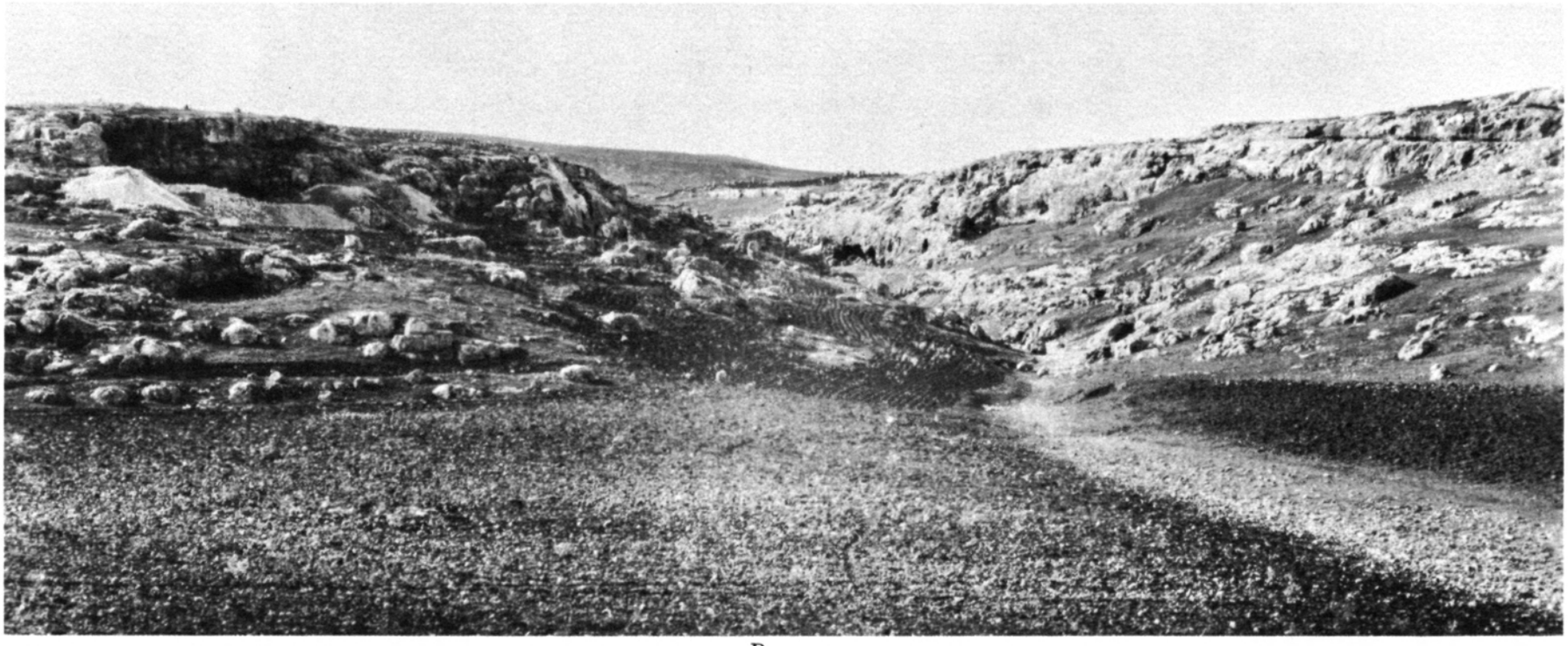


A

B

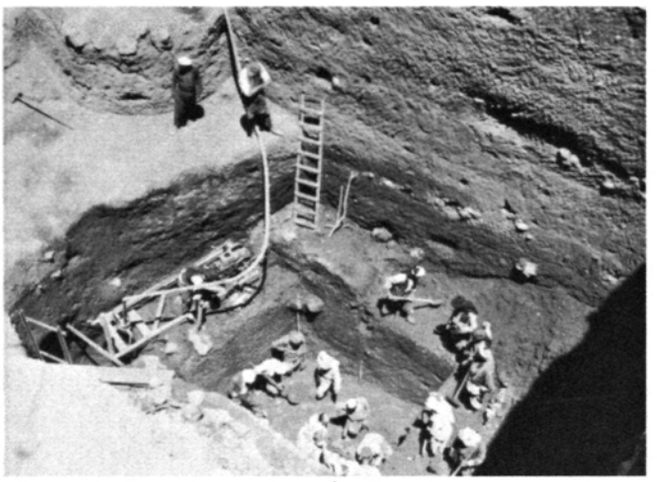
Tell Taʿyinat. *A*. View from West. *B*. Air View Showing Operations in Later Levels, with Tell ʿAtshanah in Right Background

A

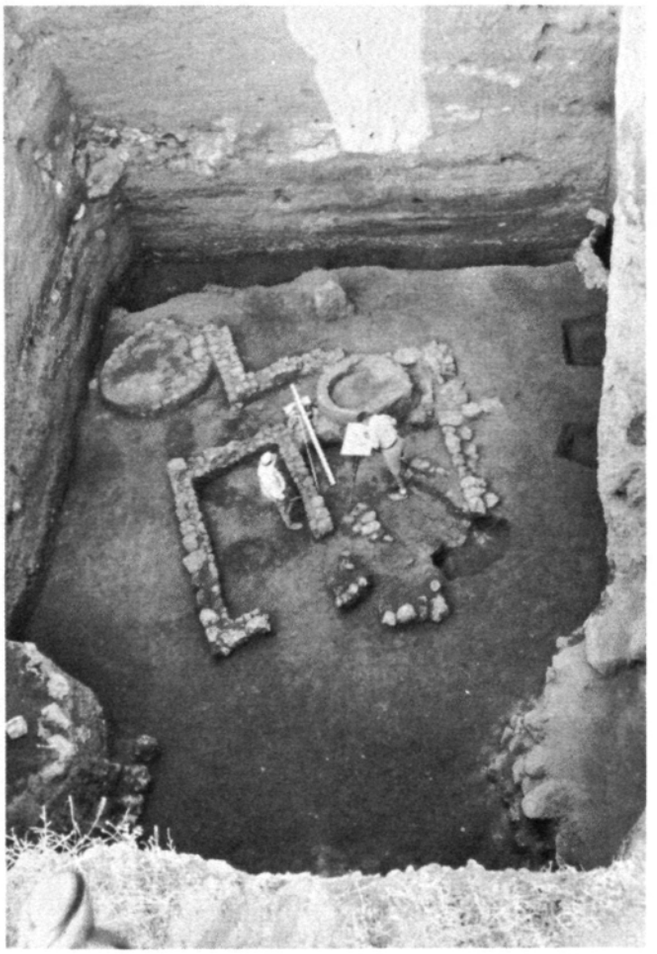


B

A. Tell Dhahab Step Trench TT 1 (Stone Wall in Trench Built during Excavations as Retaining Wall)
B. General View of Wadi al-Hammam, with Cave Excavated by O'Brien at Left



A



B

C

D

JUDAIDAH JK 3. *A*. PHASES A–B. UPPERMOST FIGURES STAND ON FLOOR 23, PUMP RESTS ON FLOOR 25, BOTTOM OF PIT IS ABOUT AT DEPTH OF FLOOR 27. *B*. FIRST MIXED RANGE. FLOOR 23. *C*. PHASE F. FLOOR 22. *D*. PHASE F. FLOOR 21

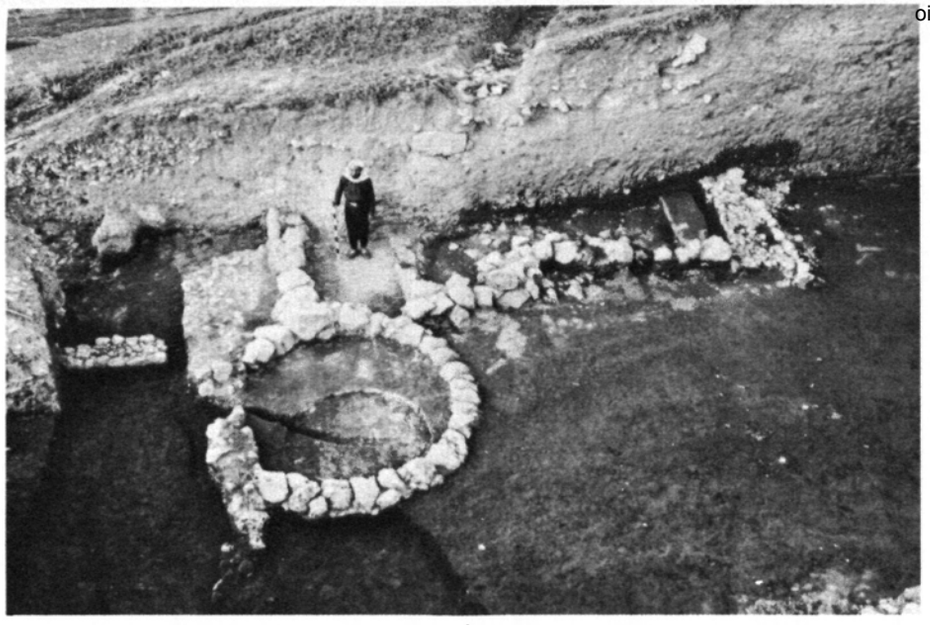
A

C

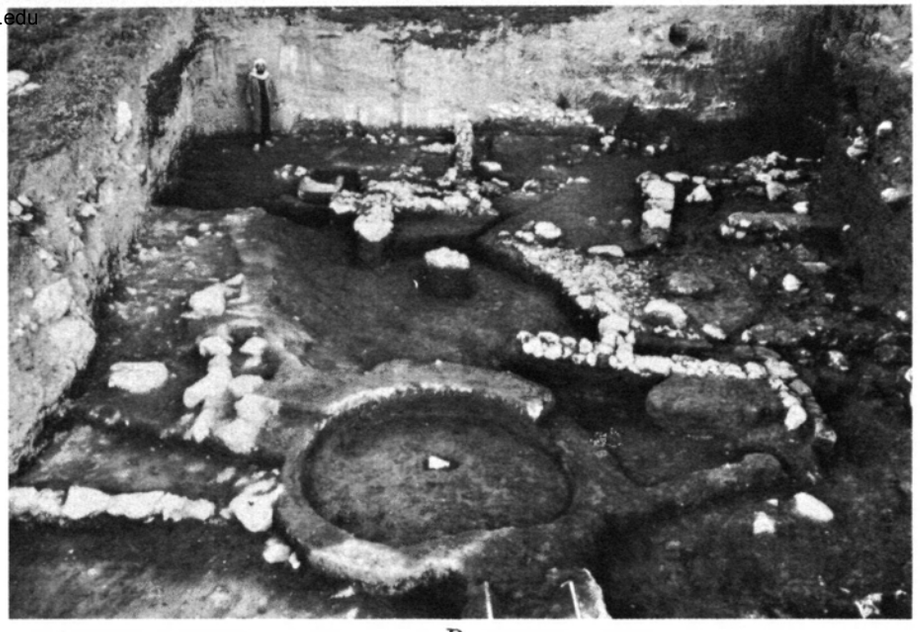
B

D

JUDAIDAH JK 3. PHASE G: FLOORS 20 (*A*), 19 (*B*), 18 (*C*), AND 17 (*D*)

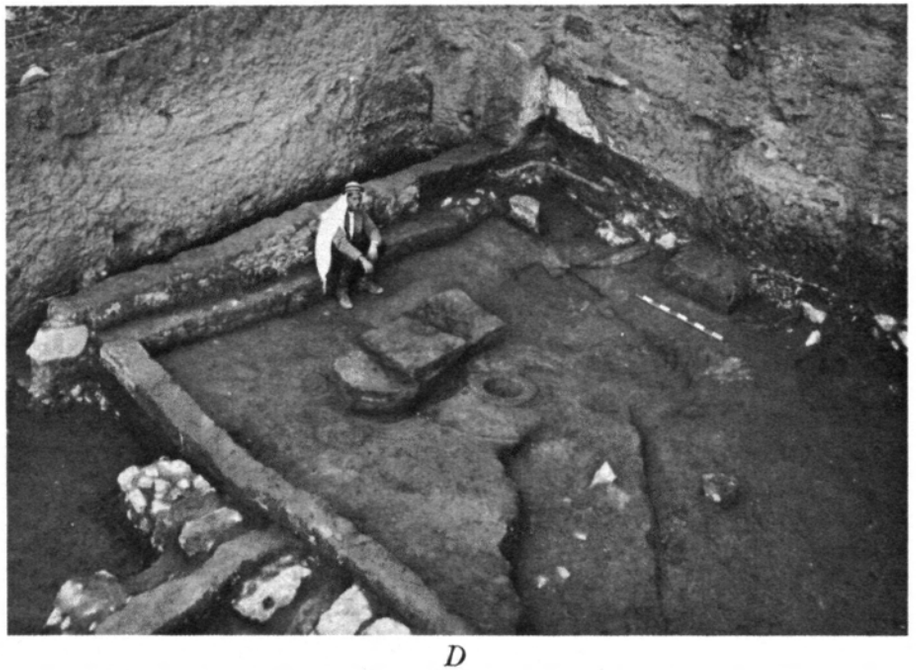


A



B

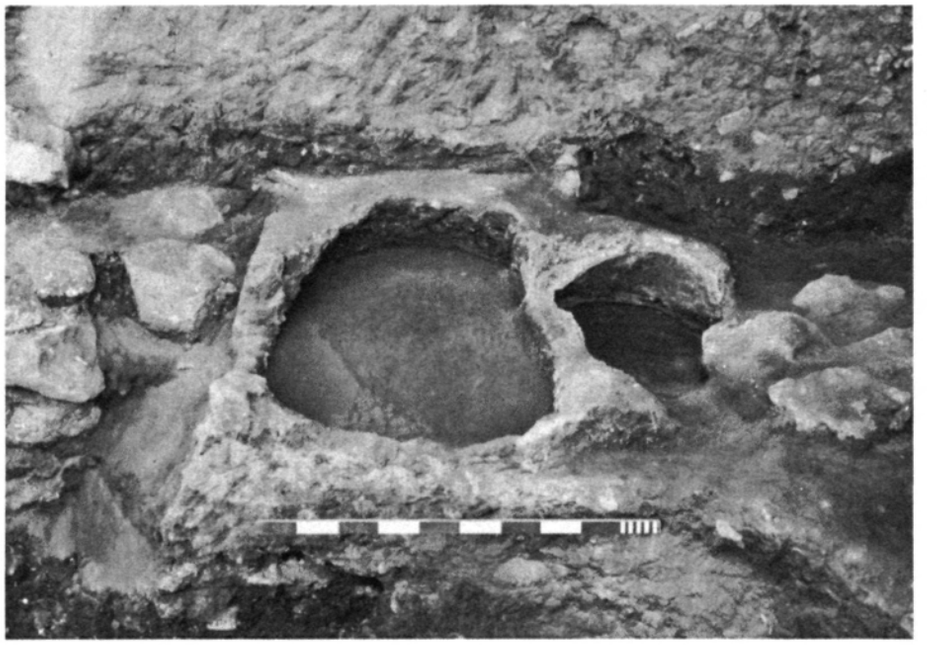
C



D

JUDAIDAH JK 3. PHASE G: FLOOR 17, WITH INTRUSIVE FEATURES (*A*), AND FLOOR 12, WITH A FEW LOW STONE FOUNDATIONS OF FLOOR 13 (*B*). PHASE H (SEE FIG. 263): FLOOR 11, AFTER REMOVAL OF *libn* OF WEST WALL OF NORTH ROOM (*C*) AND DETAILS OF NORTH ROOM (*D*). CHANNEL IN FOREGROUND OF *C* IS DRAINAGE DITCH MADE DURING EXCAVATIONS

A

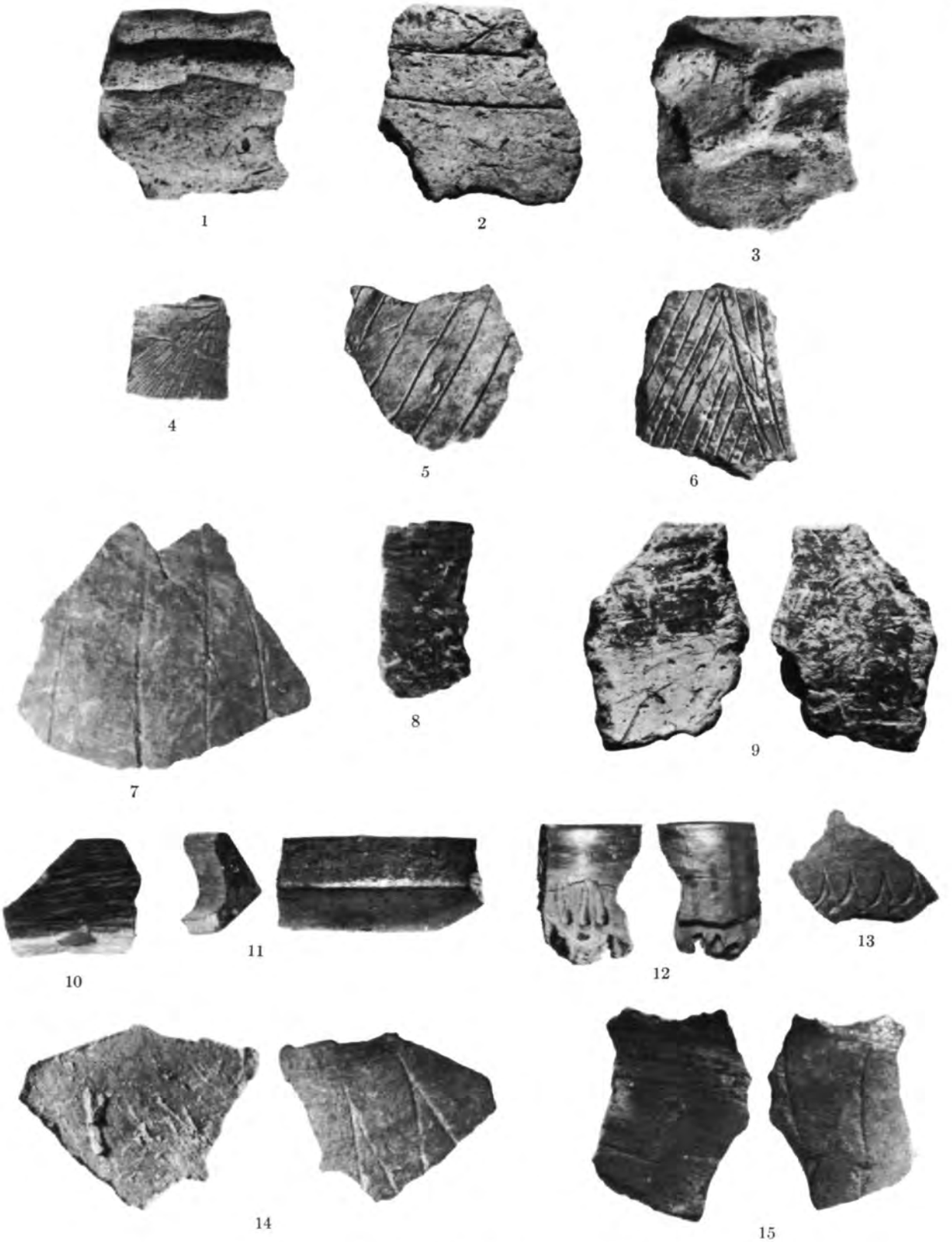


B

C

D

Judaidah JK 3 (See Fig. 266). *A*. Feature *3* of Floor 10 or 9. *B*. Double "Oven" (Feature *5*) of Floor 8. *C*. Double "Oven" Half Cut Away To Show Section. *D*. Floor 9 with Feature *5* Exposed (Where Boy Stands) and *libn* Silo Intruding from About Floor 2



COARSE SIMPLE (*1–3*), COARSE IMPRESSED (*4–7*), COARSE RED-SLIPPED (*8–9*), DARK-FACED BURNISHED (*10–15*) WARES. SCALE, 1:3

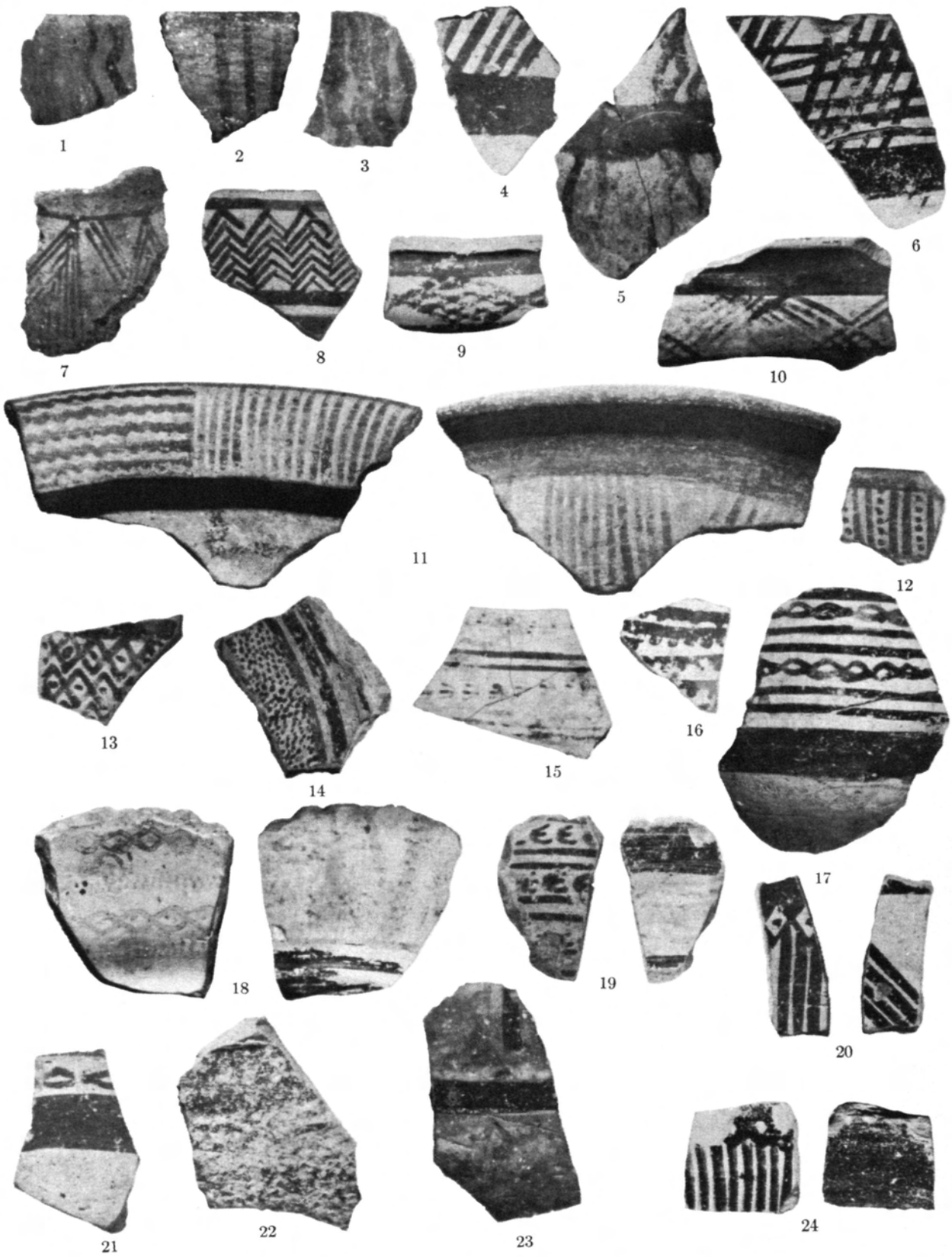
PLATE 12

Dark-faced Burnished Ware. Scale, 1:3

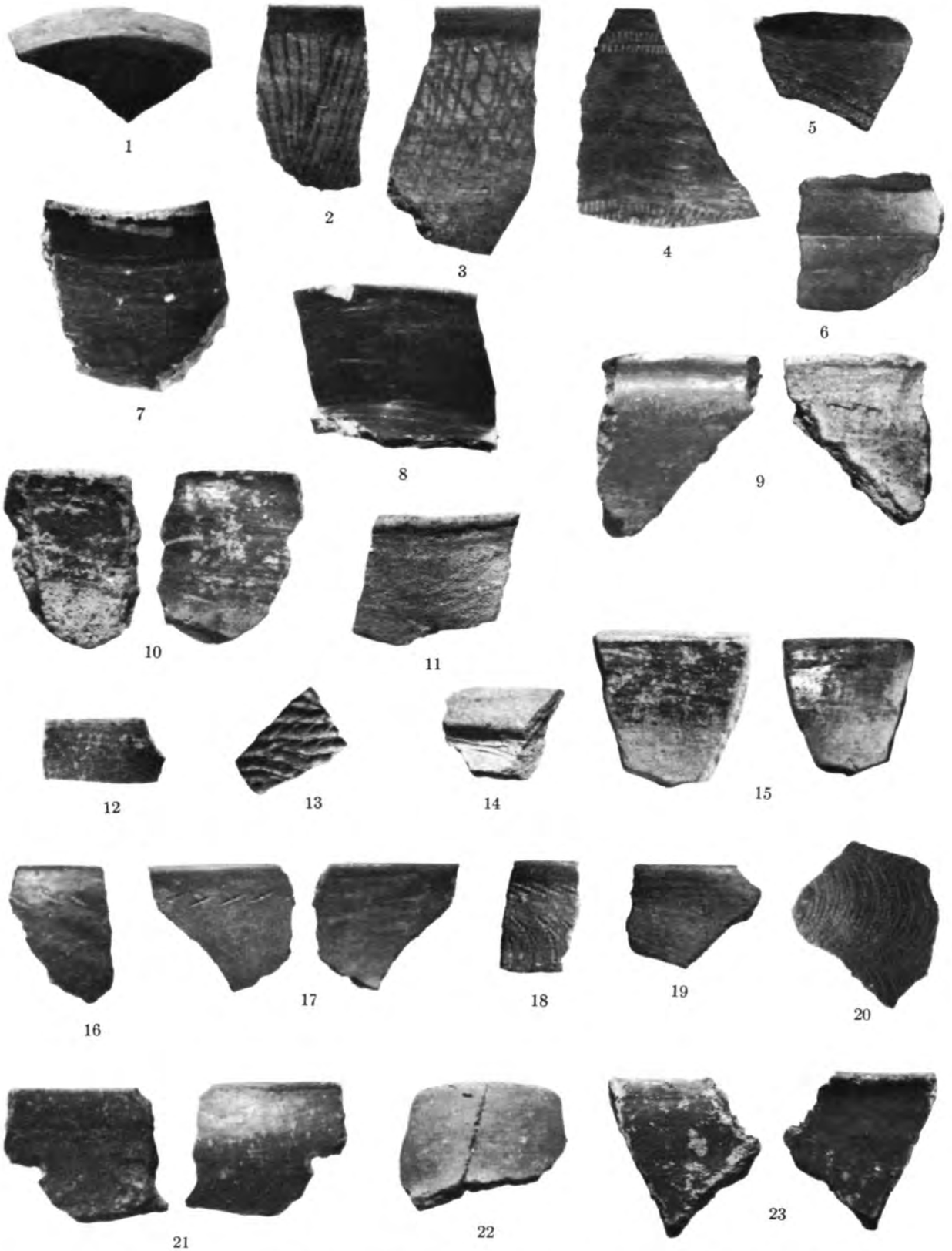
1 2 3 4 5 6 7 8 9

DARK-FACED BURNISHED (*1–8*) AND LOCAL PAINTED (*9*) WARES. SCALE, 2:5

PLATE 14

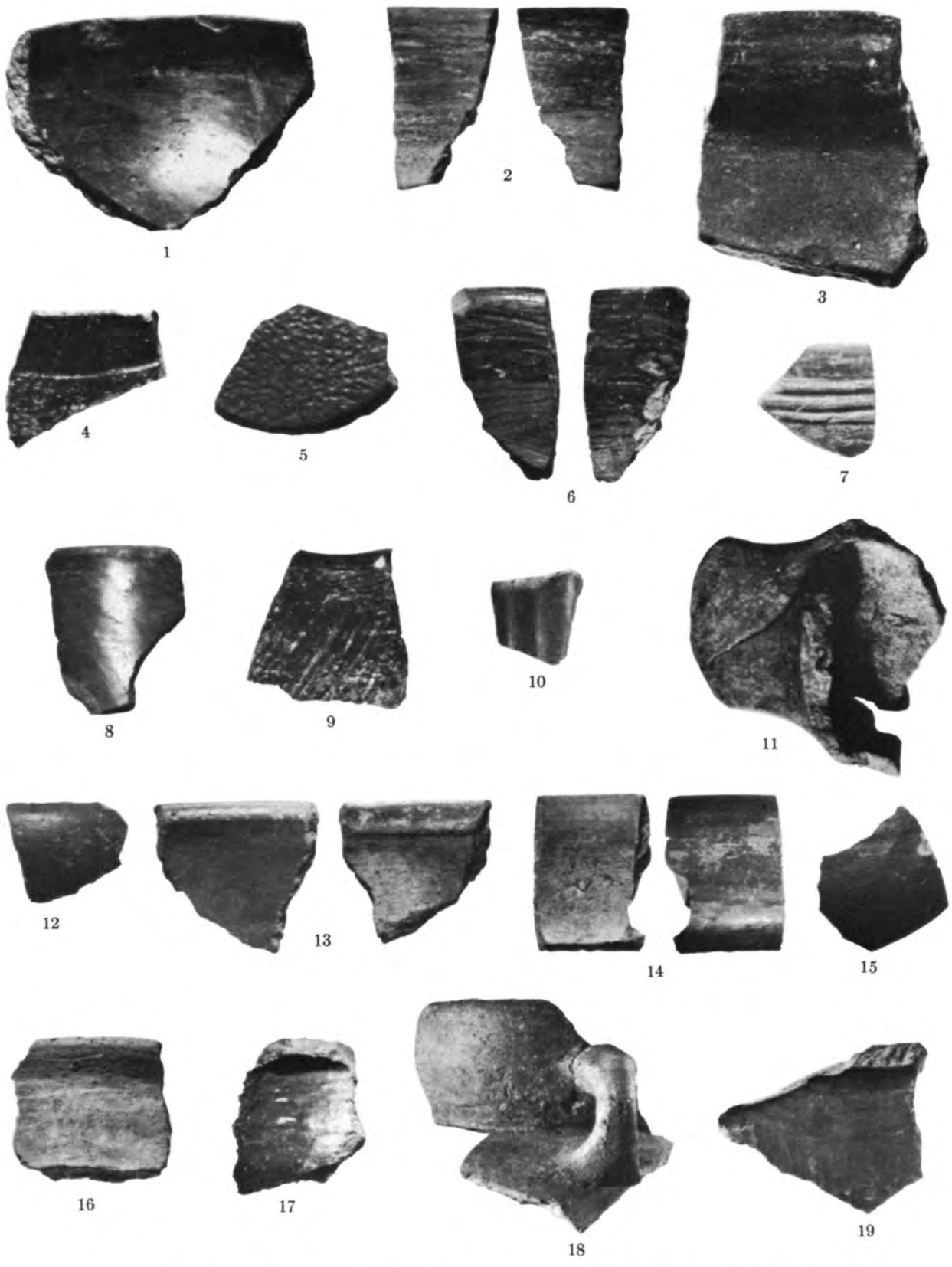


Brittle Painted (*1–3, 5*), Nonbrittle Painted (*4, 6–7*), Local Painted (*8–14, 17*), Halaf Painted (*15, 16, 18–20, 23, 24*), Halaf(?) Cinnamon (*21–22*) Wares. Scale, 1:3

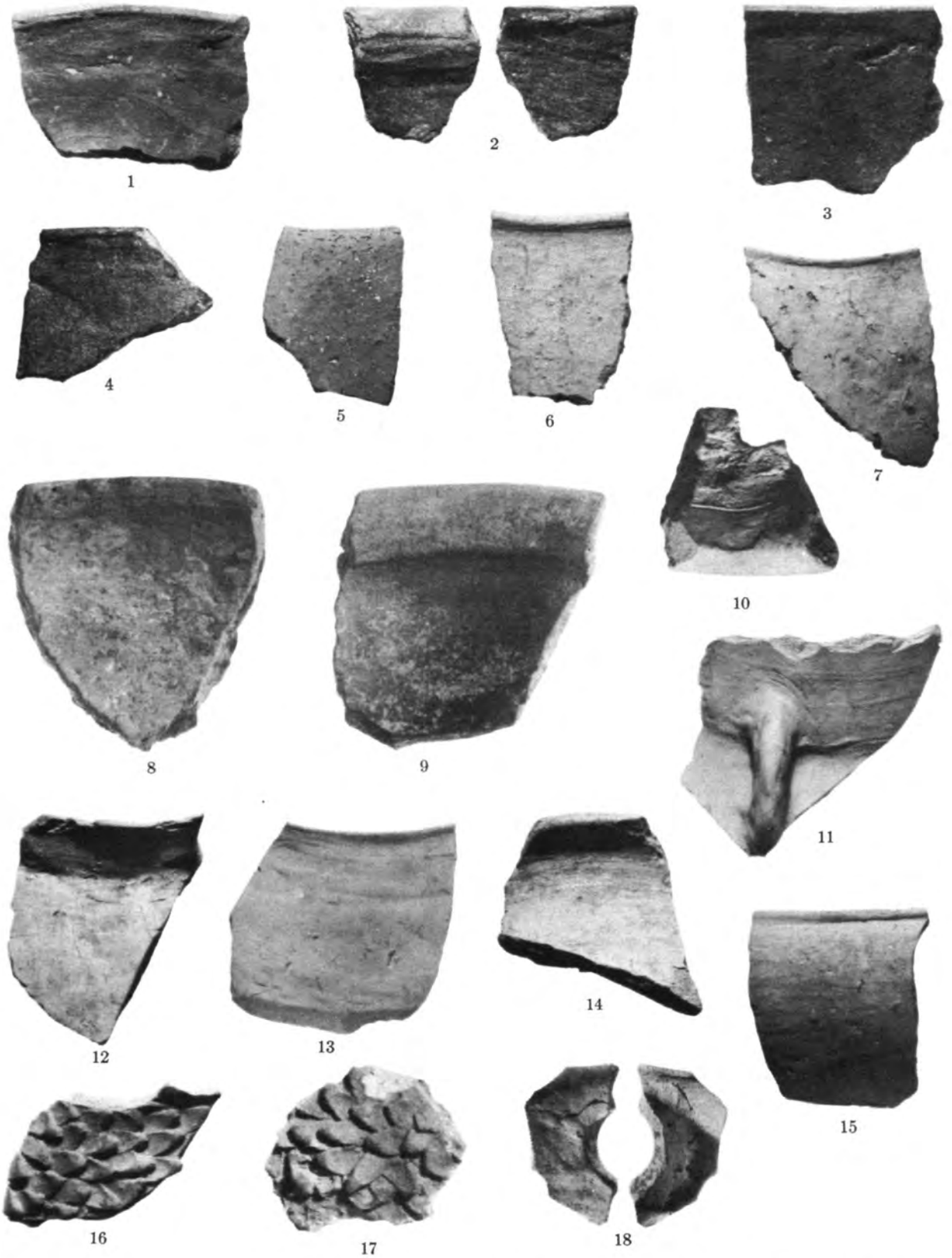


DARK-FACED BURNISHED (*1–15*), WASHED IMPRESSED (*16–20*), AND LUSTROUS RED-FILM (*21–23*) WARES
SCALE, 1:3. NOS. *7*, *9*, *10*, *14*, AND *15* ARE OF KURDU TYPE DARK-FACED BURNISHED WARE

PLATE 16

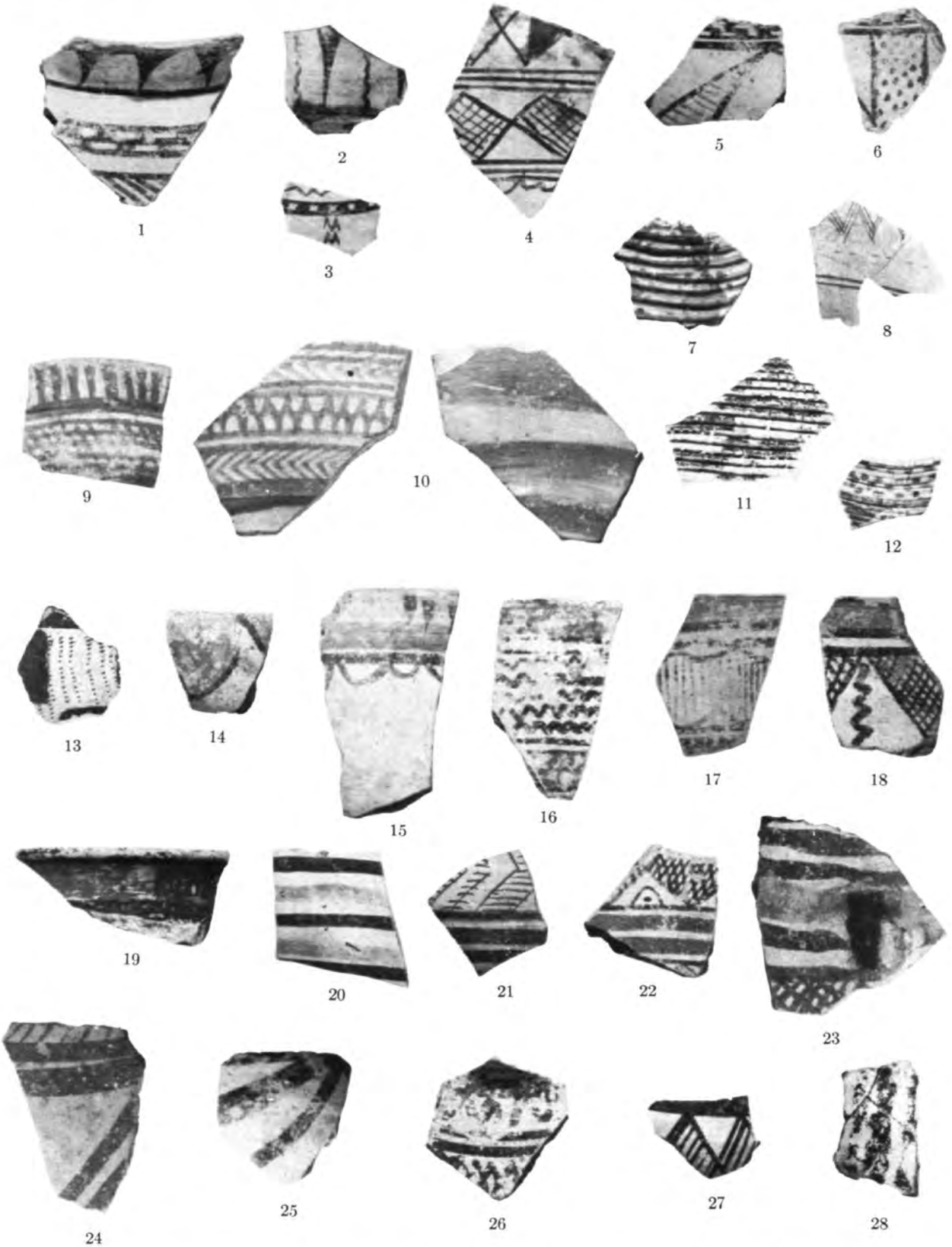


Dark-faced Burnished (*1–11*) and Wiped-Burnish (*12–19*) Wares. Scale, 1:3



DARK-FACED UNBURNISHED (*1, 3, 8, 9*), OLD (*2, 4*) AND NEW (*5–7*) COOKING-POT, BUFF SIMPLE (*10–11*), AND PHASE E SIMPLE (*12–15, 18*) WARES, PHASE C UNCLASSIFIED SHERDS (*16–17*). SCALE, 1:3

PLATE 18



TRANSITIONAL MONOCHROME (*1–4*), BICHROME (*5–6*), AND FINE-LINE (*8*) PAINTED, LOCAL(?) PAINTED (*10*), CORRUGATED PAINTED (*7, 11, 12*), AND ʿUBAID-LIKE MONOCHROME (*24–27*) AND BICHROME (*14–23*) PAINTED WARES, UNCLASSIFIED SHERDS (*9, 13, 28*). SCALE, 1:3

PHASE E SIMPLE (*1–2*) AND ʿUBAID-LIKE MONOCHROME PAINTED (*3–11*) WARES. SCALE, 2:5

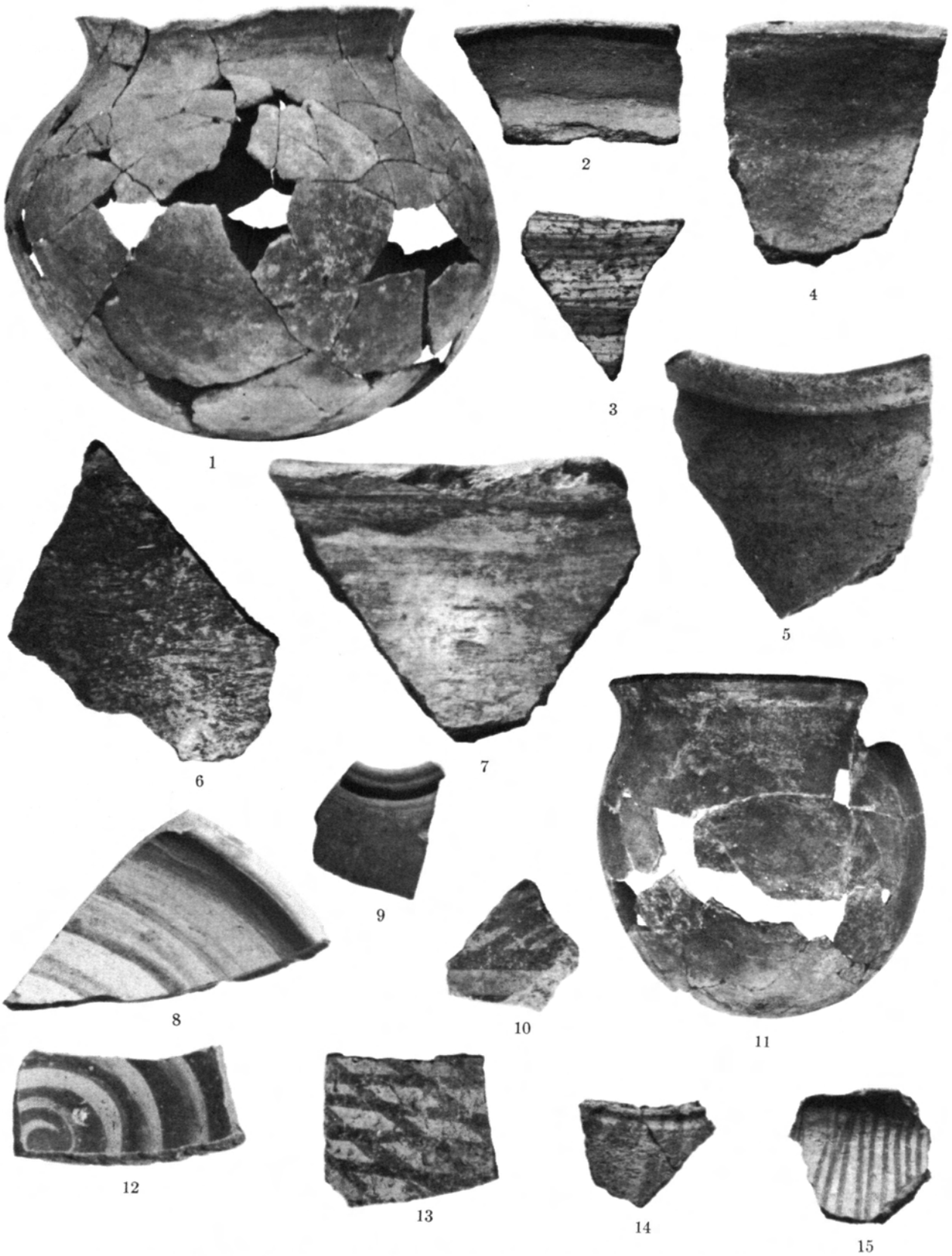
PLATE 20

'Ubaid-like Monochrome Painted Ware. Scale, 1:3

ʿUbaid-like Monochrome Painted Ware. Scale, 1:3

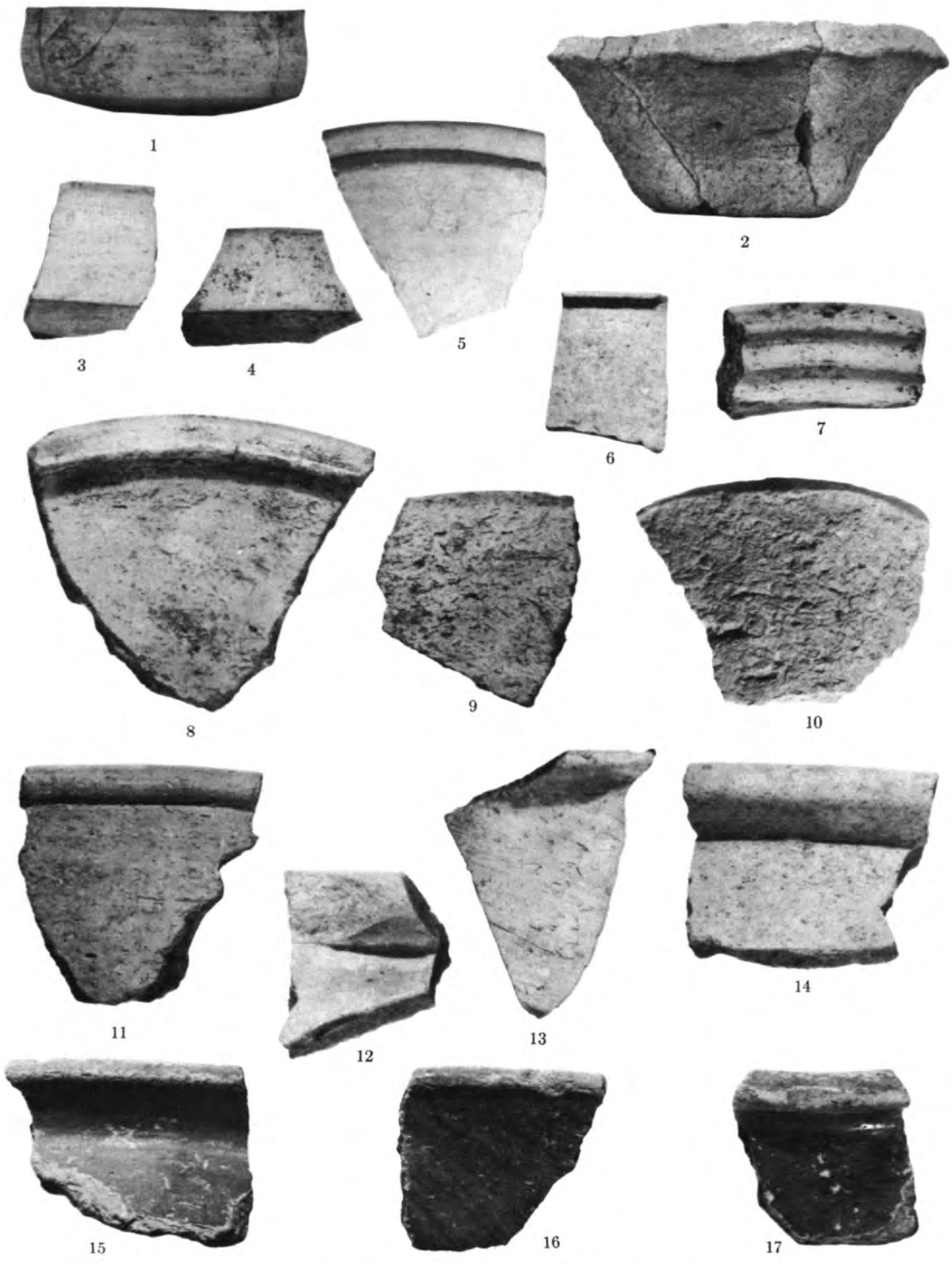
PLATE 22

Ubaid-like Monochrome Painted Ware. Scale, 1:3



CHAFF-FACED SIMPLE (*3*?), WELL MADE (*1–2*) AND COARSE (*4, 11*) COOKING-POT, RED DOUBLE-SLIPPED (*6–7*), SMOOTH-FACED WITH RESERVED SPIRAL DECORATION (*8, 12*), AND CHAFF-FACED PAINTED (*13–15*) WARES, UNCLASSIFIED SHERDS (*9–10*). SCALES, 1:4 (*1, 11*) AND 1:3

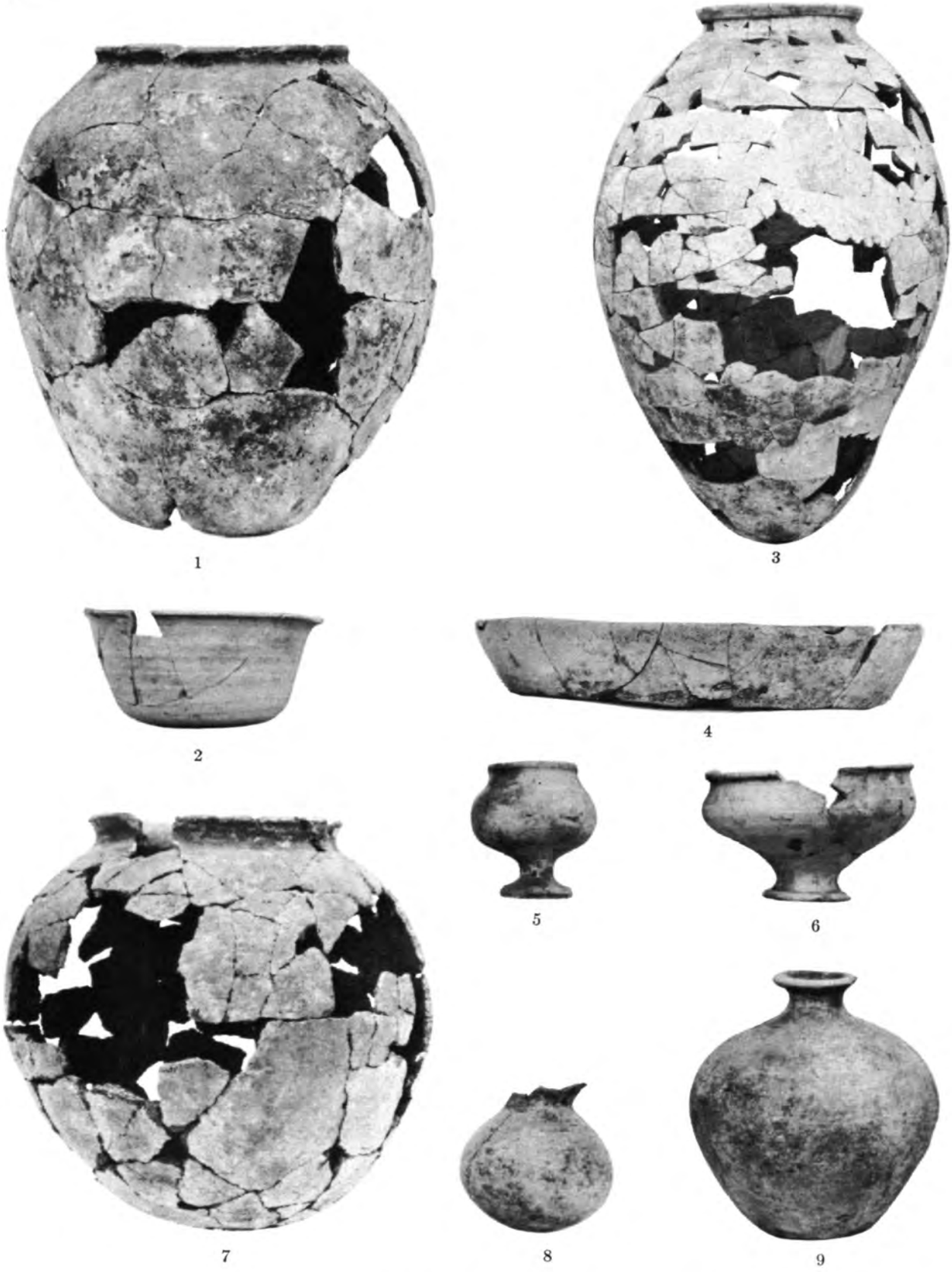
PLATE 24



Smooth-faced Simple (*1*, *3–7*), Chaff-faced Simple (*2*, *8–12*, *13*[?], *14*), Chaff-faced Red-slipped (*15*), Chaff-faced Red-slipped and Burnished (*16–17*) Wares. Scales, 2:5 (*1–2*) and 1:3

First (*1–5*), Second (*6–7*), Third (*8–10*), and Fourth (*11–12*) Cooking-Pot Wares. Scale, 1:3

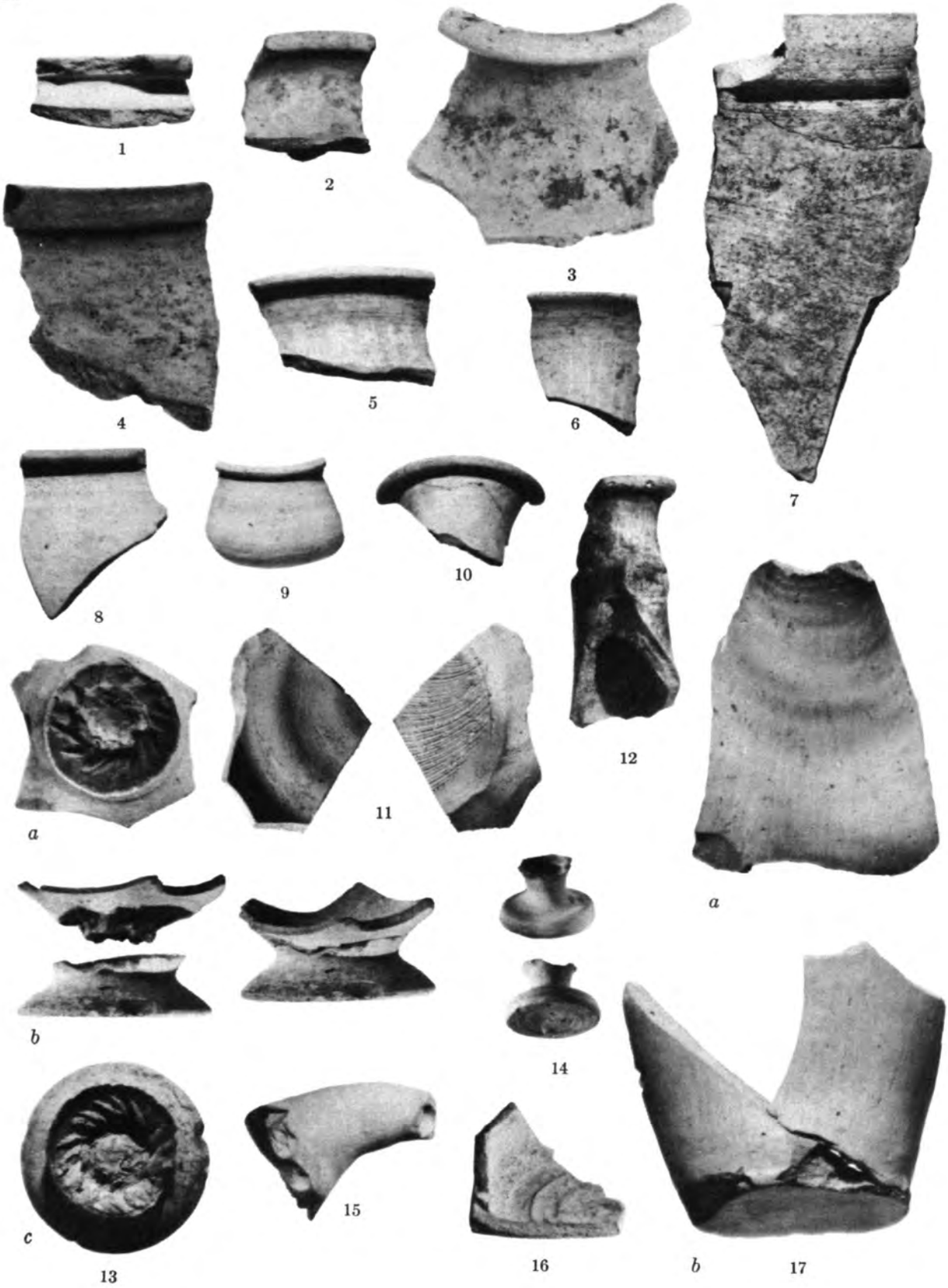
PLATE 26



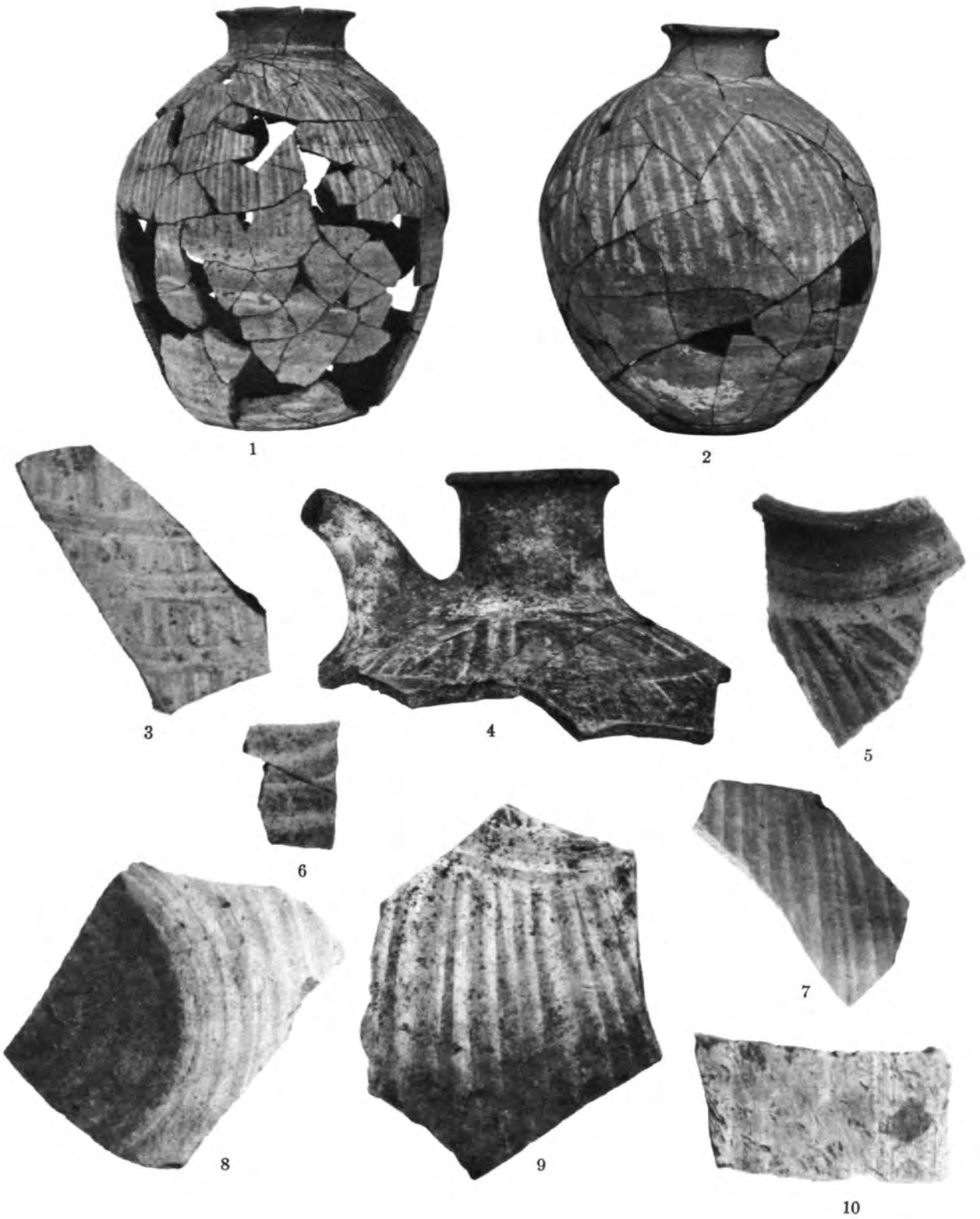
SMOOTH-FACED (*8*) AND PLAIN (*2–6, 9*) SIMPLE, THIRD (*1*) AND FOURTH (*7*) COOKING-POT WARES. SCALES, 2:5, 1:5 (*1, 4, 7*), AND 1:10 (*3*)

PLAIN SIMPLE WARE. SCALE, 1:3

PLATE 28

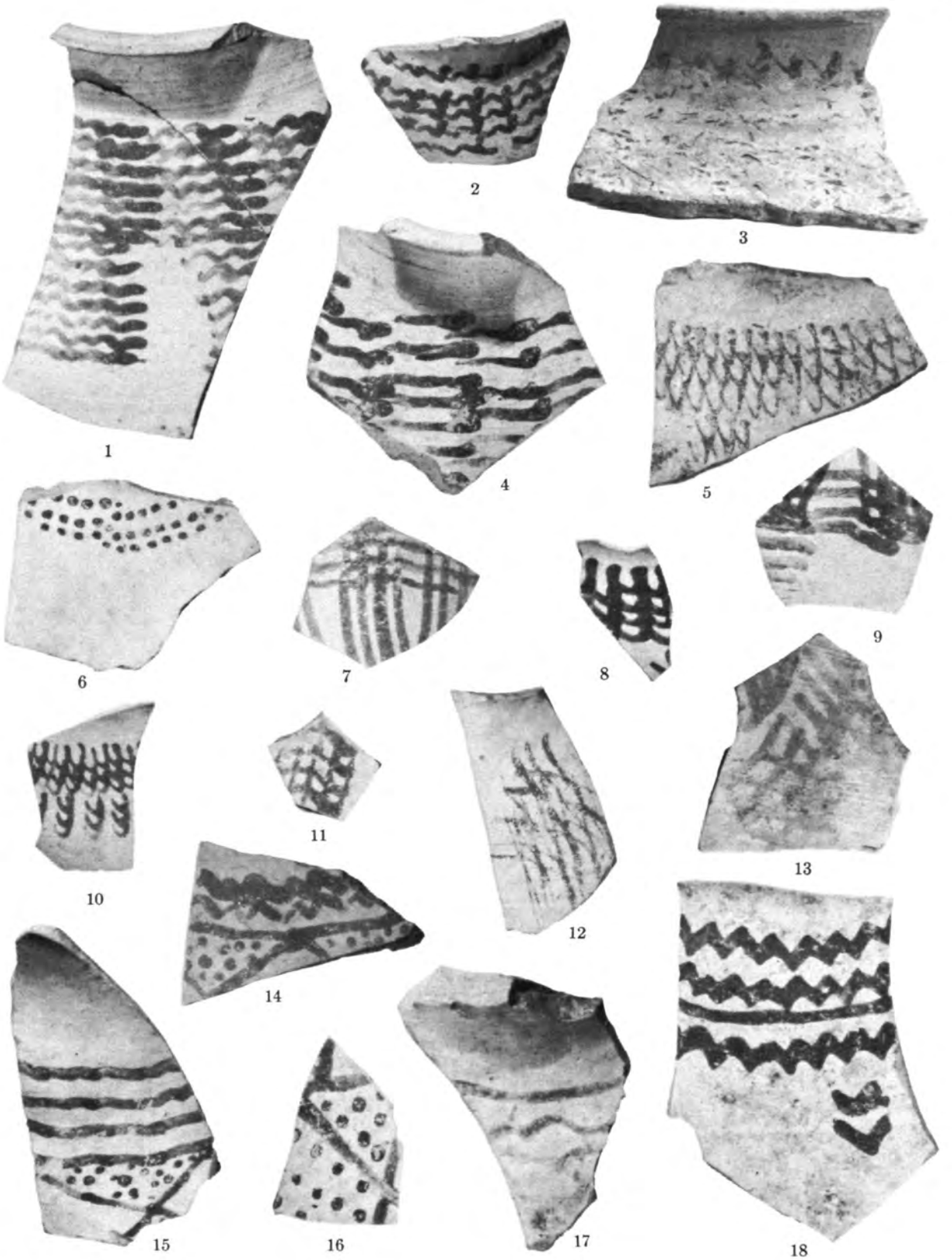


PLAIN SIMPLE WARE. SCALE, 1:3



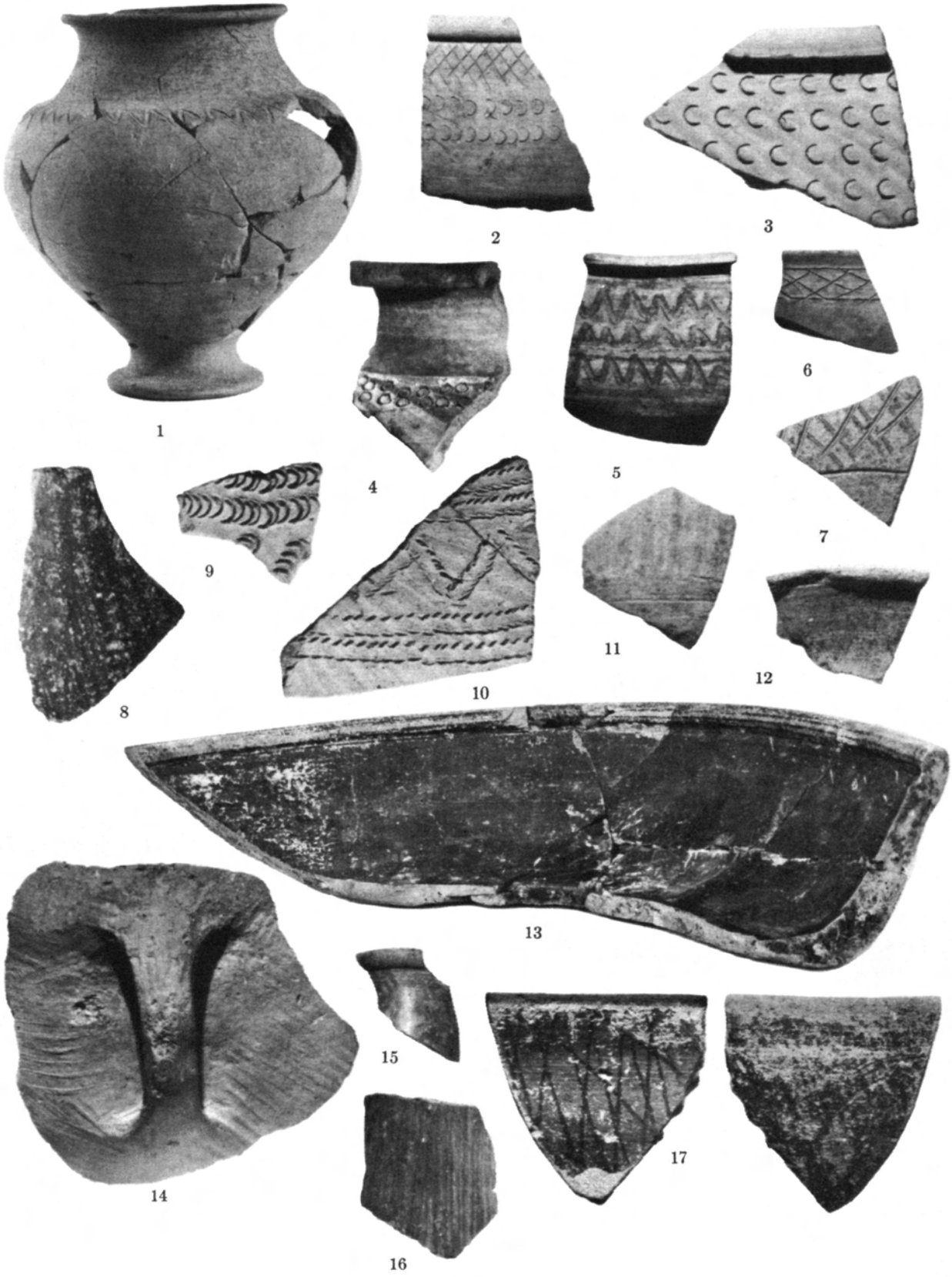
RESERVED-SLIP WARE. SCALES, 1:5 (*1–2*), 2:5 (*4*), AND 1:3

MULTIPLE-BRUSH PAINTED WARE. SCALES, 2:5 (*1–3*), 1:5 (*5*, *7*) AND 1:3



MULTIPLE-BRUSH PAINTED WARE (*1–13*), PAINTED WARE PARTIALLY OR NOT AT ALL DEPENDENT ON THE MULTIPLE BRUSH (*14–18*). SCALE, 1:3.

PLATE 32



INCISED AND IMPRESSED (*1–7, 9–10, 11*), SIMPLE WITH ORANGE-BROWN SLIP AND BURNISH (*13, 15, 17*), AND METALLIC (*8*) WARES, UNCLASSIFIED SHERDS (*12, 14*). SCALES, 2:5 (*1, 13*) AND 1:3

RED-BLACK BURNISHED WARE. SCALE, 2:5

PLATE 34

1

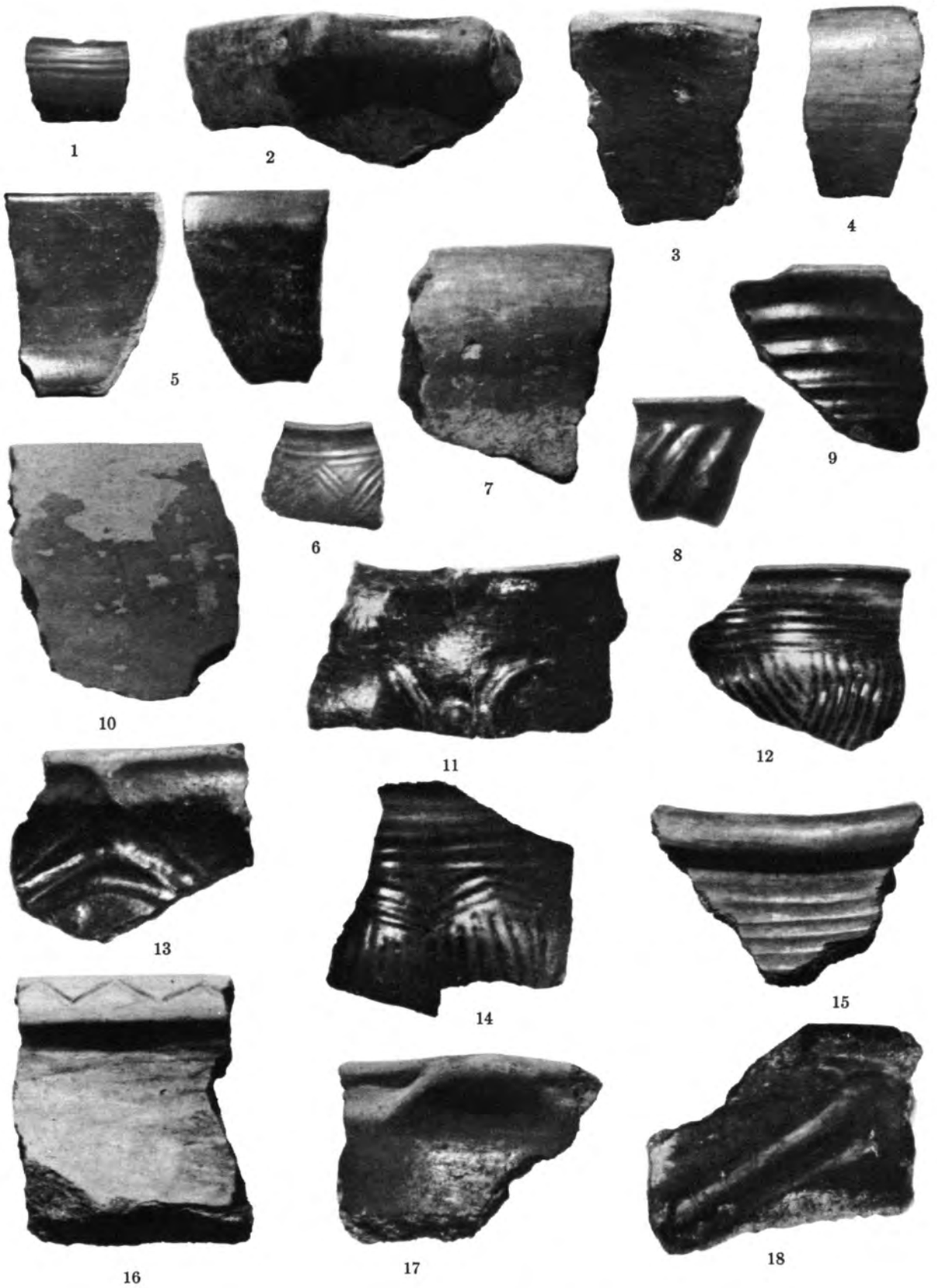
2

3

4

5

RED-BLACK BURNISHED WARE. SCALE, 1:5



RED-BLACK BURNISHED WARE. SCALE, 1:3

PLATE 36

RED-BLACK BURNISHED WARE. SCALE, 1:3

RED-BLACK BURNISHED WARE. SCALES, 2:5 (*1, 2, 11*) AND 1:3

PLATE 38

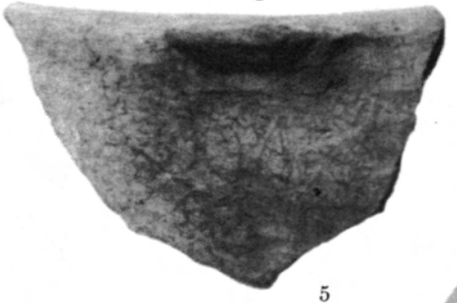
BRITTLE ORANGE WARE. SCALES, 2:5 (*1–3*) AND 1:3

1

2

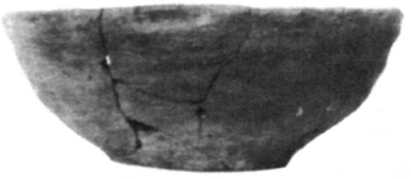
3

4



5

6

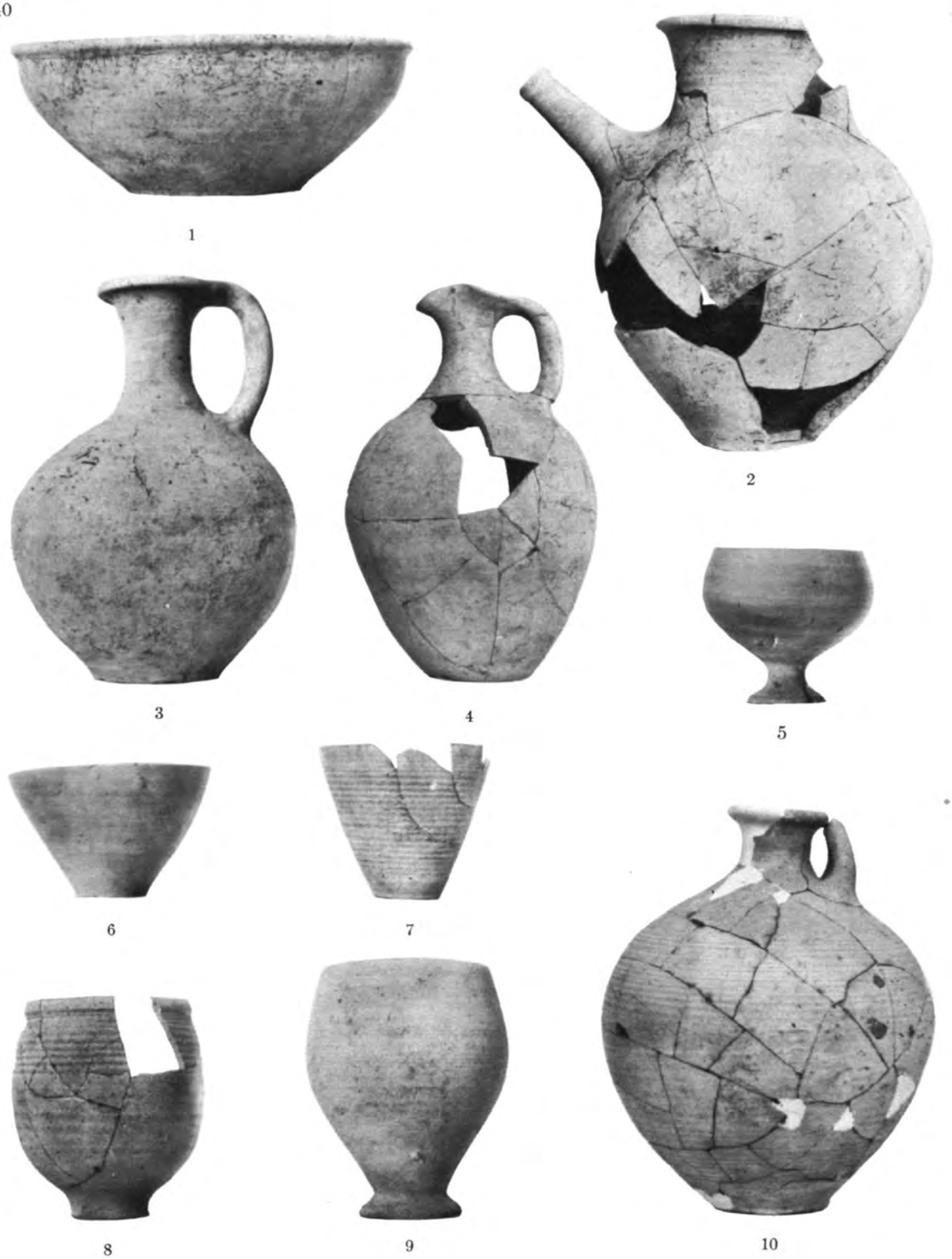


7

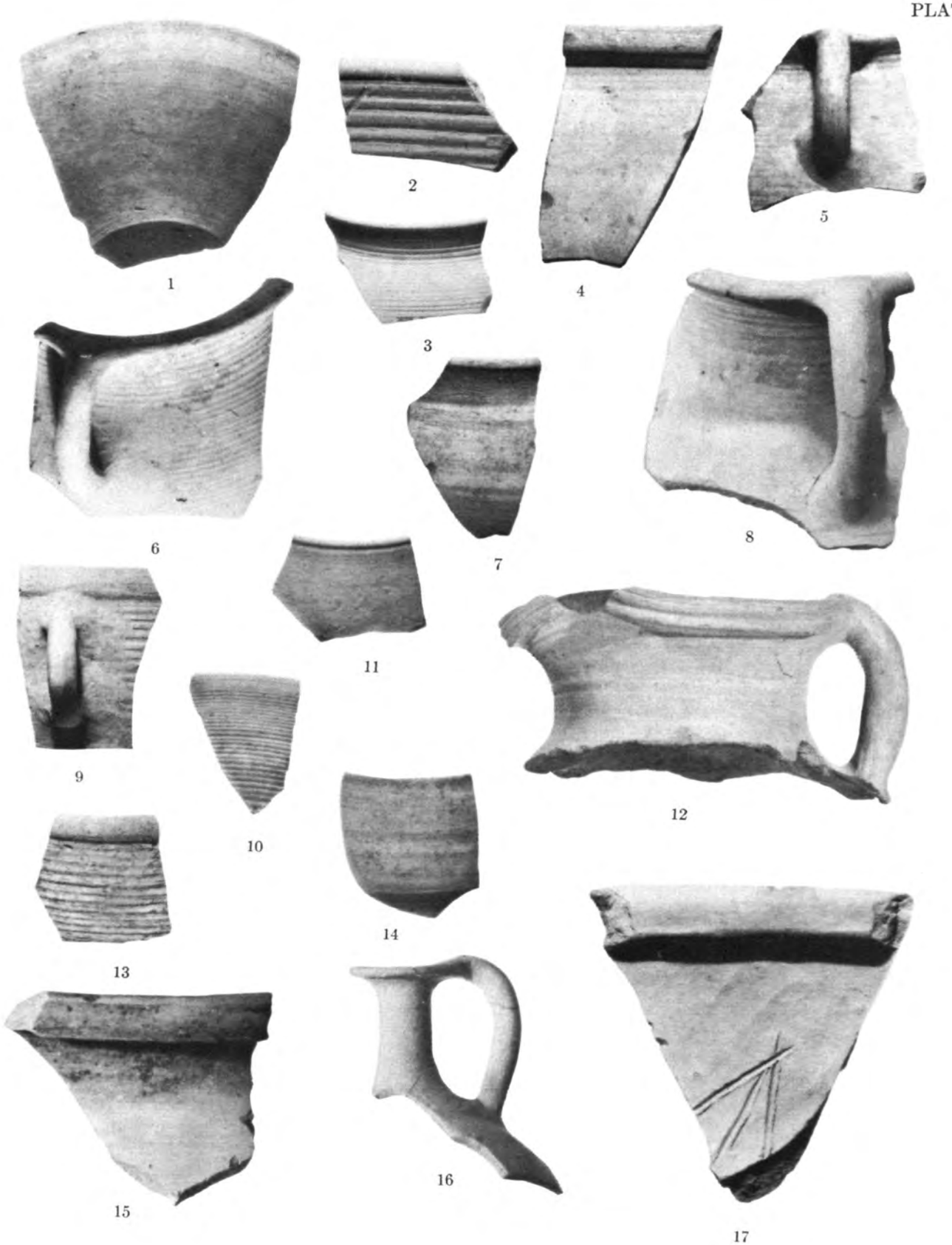
8

UNCLASSIFIED COOKING POTS. SCALES, 1:4 (*1, 2, 7, 8*) AND 1:3

PLATE 40



PHASES I–J SIMPLE WARE. SCALE, 2:5



PHASES I–J SIMPLE WARE. SCALE, 1:3

PLATE 42

PHASES I–J SIMPLE (*1–9, 18, 20*), RESERVED-SLIP (*10–17*), AND "SCRABBLED" (*19*) WARES. SCALE, 1:3

1

2

3

6

4

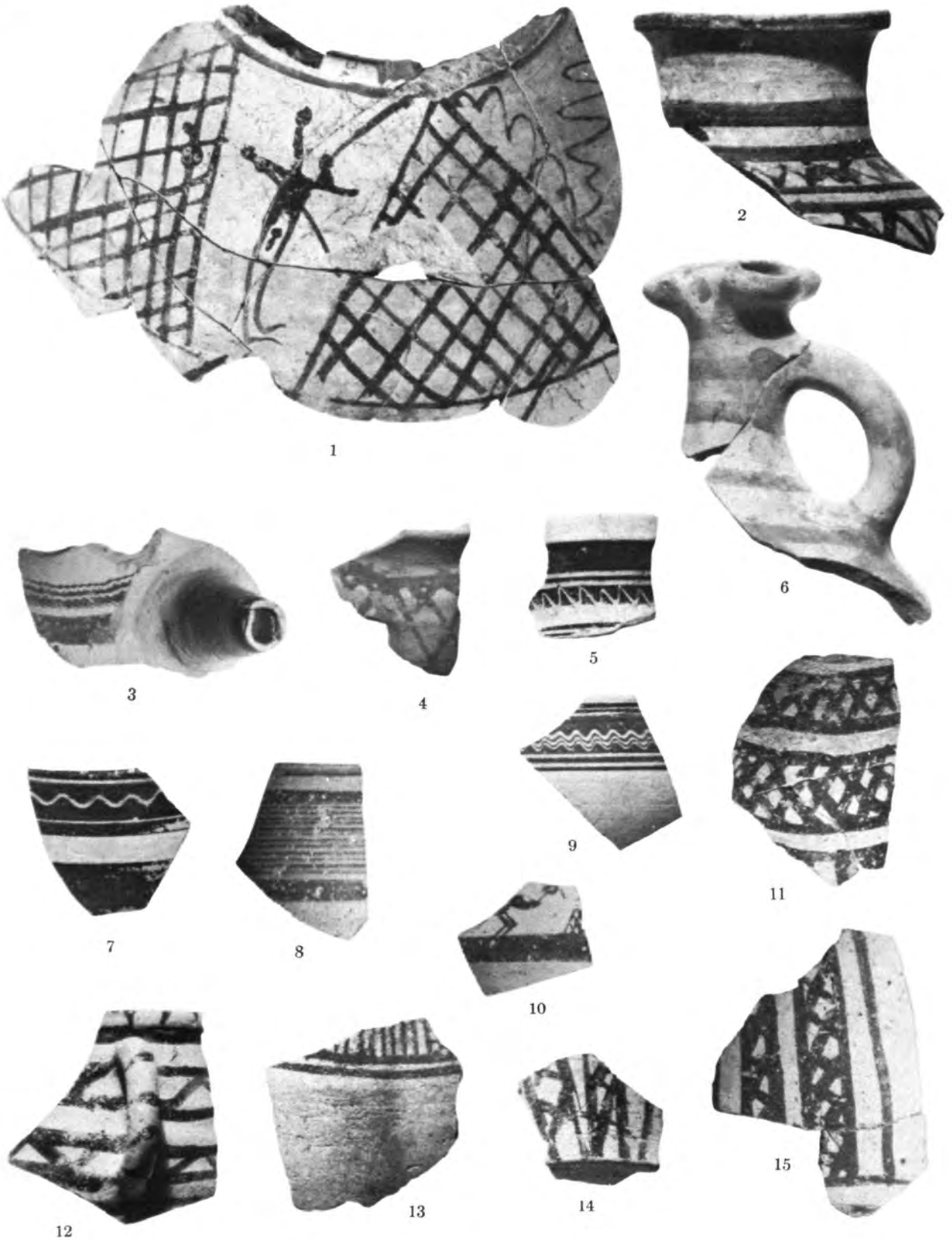
5

8

7

PAINTED SIMPLE WARE. SCALE, 2:5

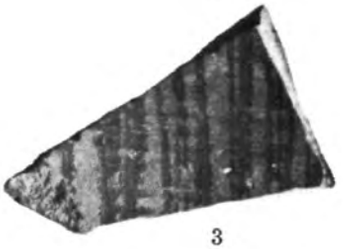
PLATE 44



PAINTED SIMPLE WARE. SCALE, 1:3

1

2



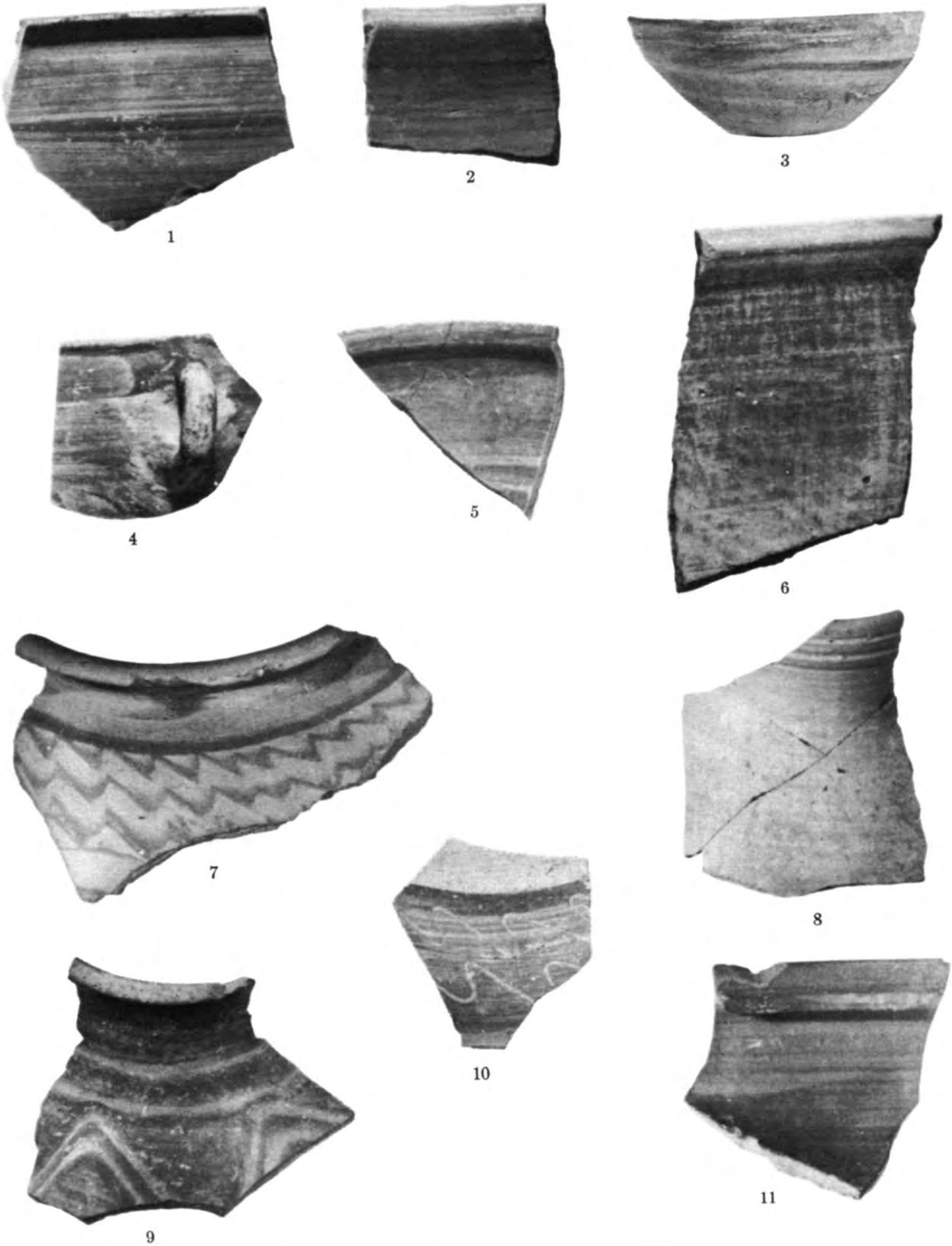
3

4

5

SMEARED-WASH WARE. SCALES, 1:5 (*1*, *2*, *5*) AND 1:3

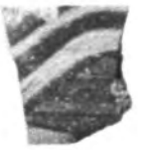
PLATE 46



SMEARED-WASH WARE. SCALES, 2:5 (*3*) AND 1:3

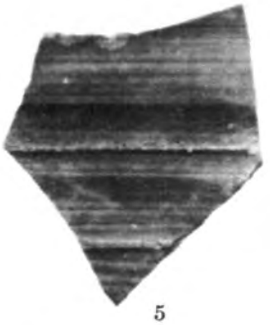
1

2

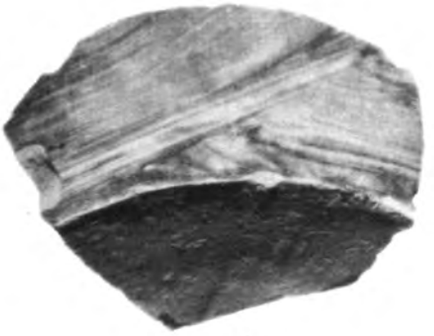


3

4



5

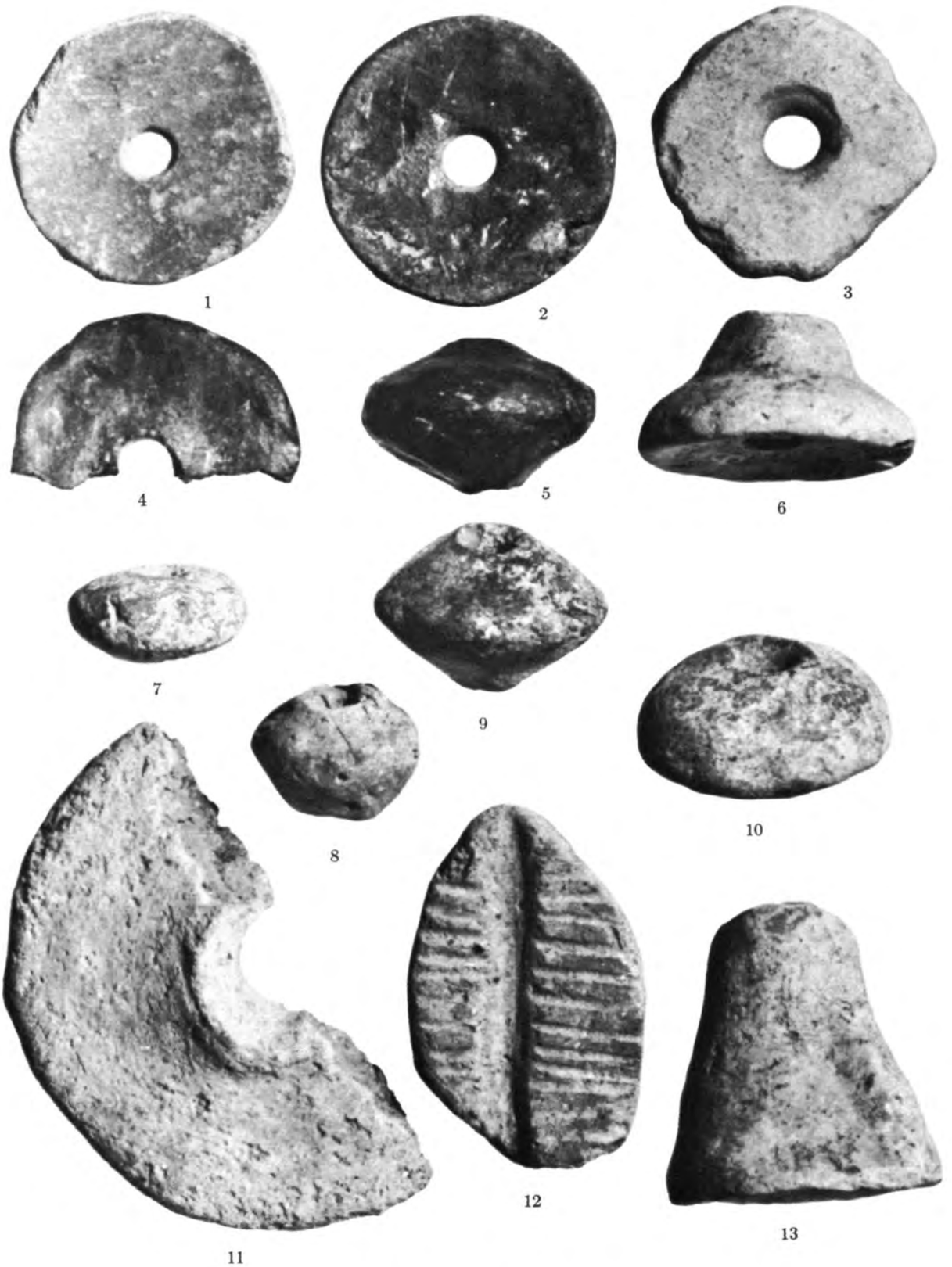


6

7

PHASES I–J SIMPLE (*1*), SMEARED-WASH (*2–7*) WARES. SCALES, 1:5 (*7*), 1:10 (*1*), AND 1:3

PLATE 48

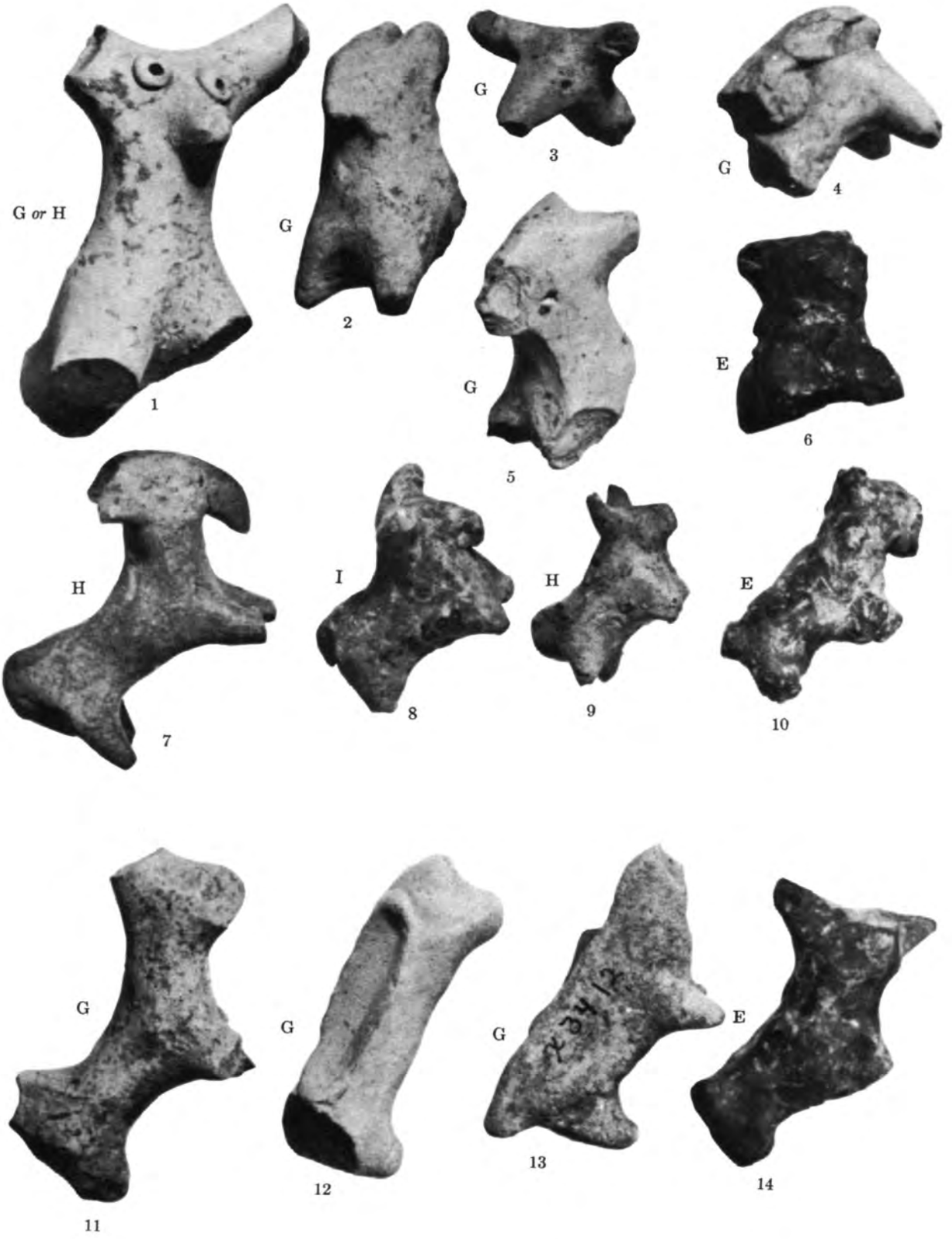


Baked-Clay Objects. Actual Size

BAKED-CLAY OBJECTS. SCALES, 1:2 (*5*) AND 1:1

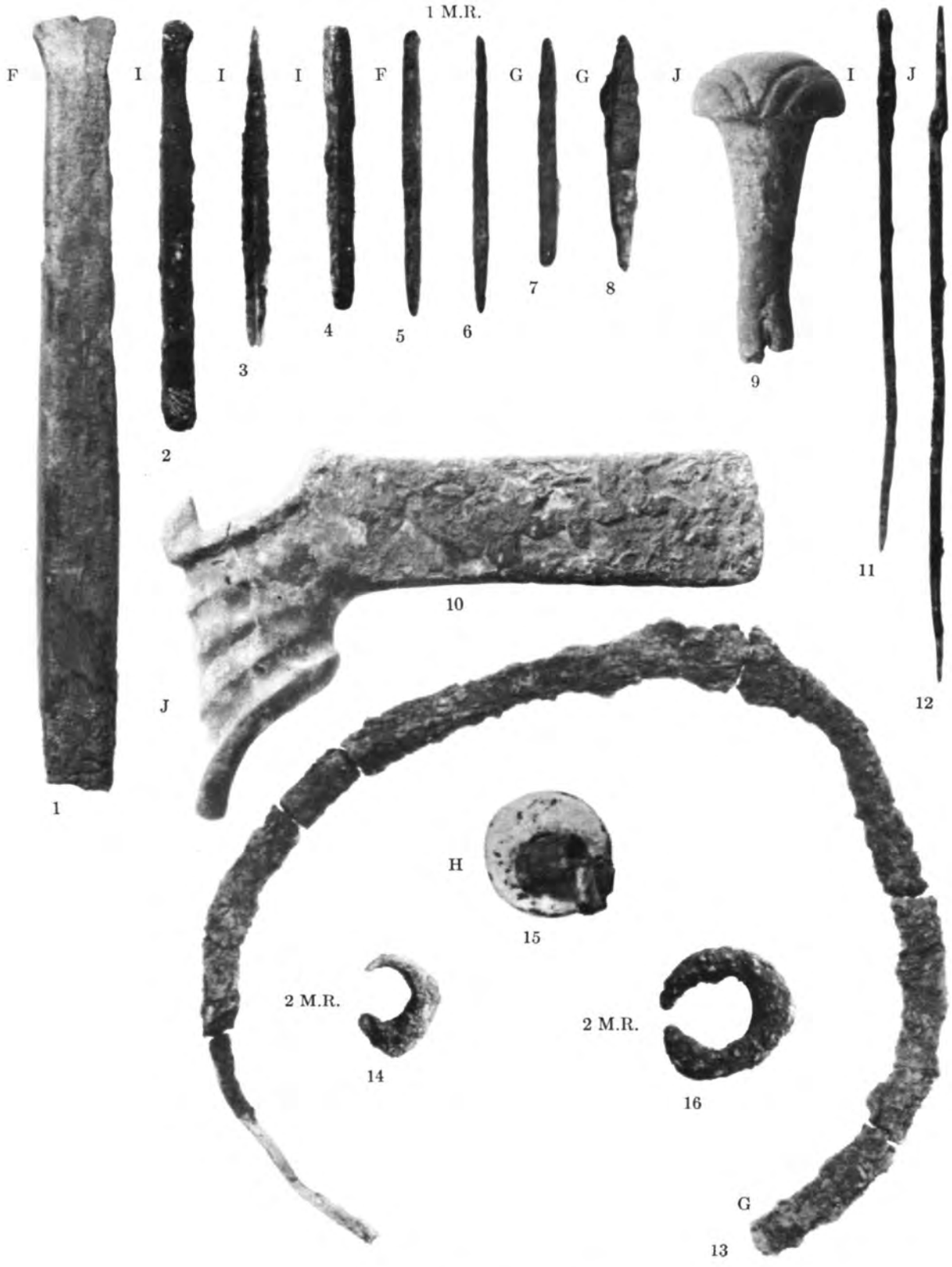
PLATE 50

Baked-Clay Human Figurines. Actual Size

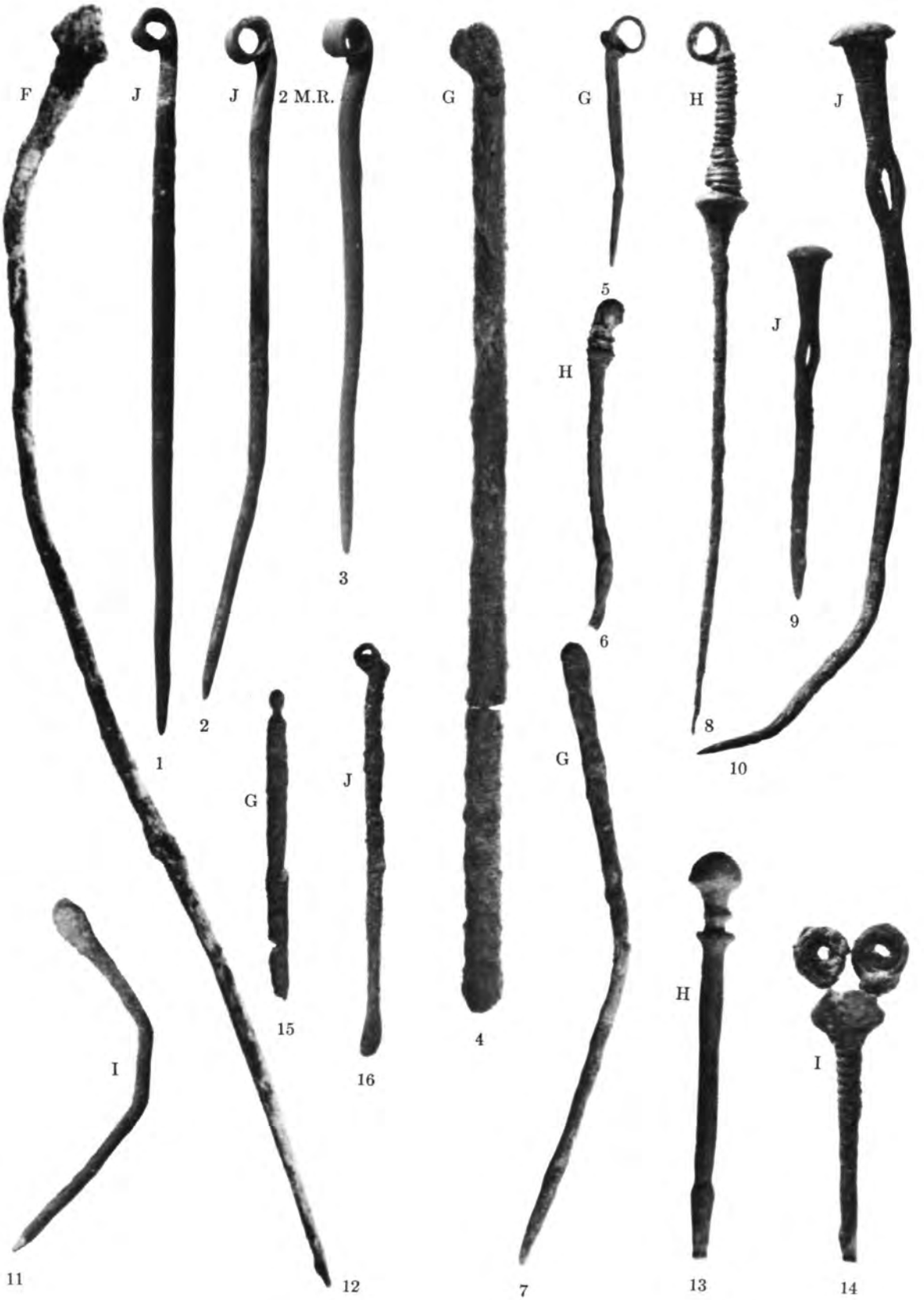


BAKED-CLAY ANIMAL FIGURINES. ACTUAL SIZE

PLATE 52



METAL OBJECTS. ACTUAL SIZE

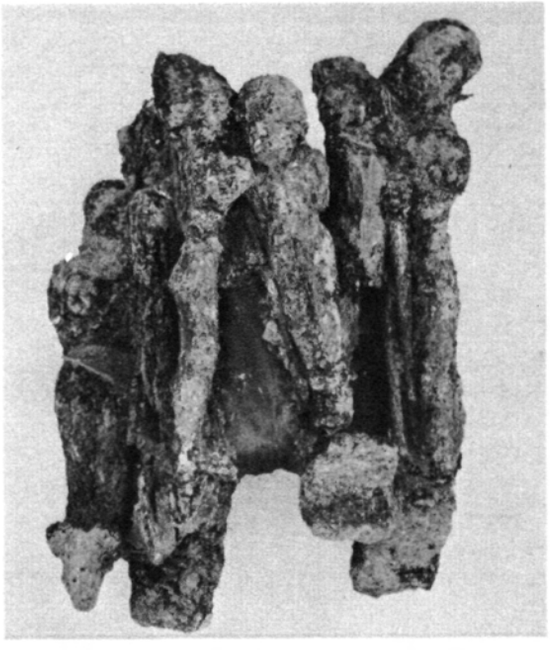


METAL OBJECTS. ACTUAL SIZE

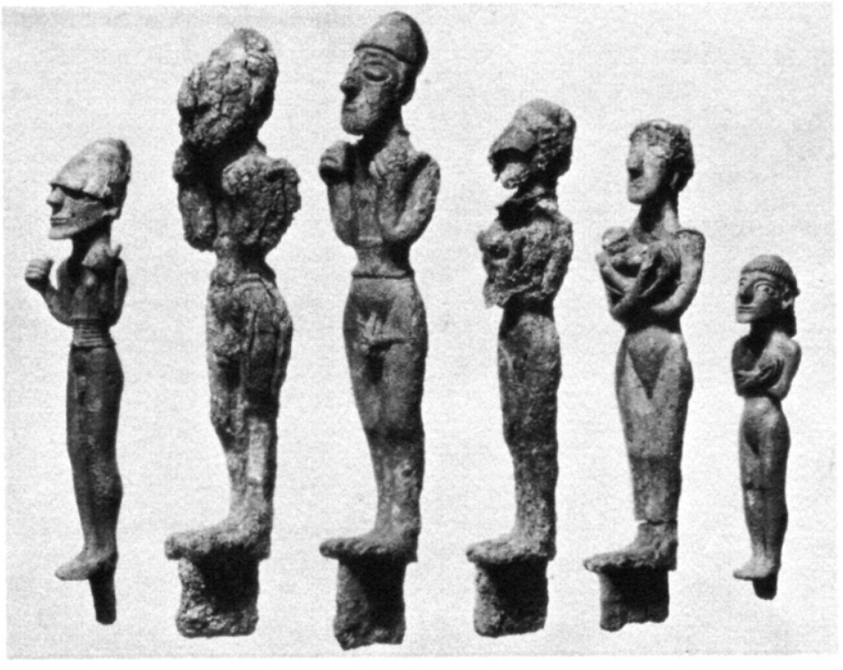
PLATE 54

METAL OBJECTS. ACTUAL SIZE

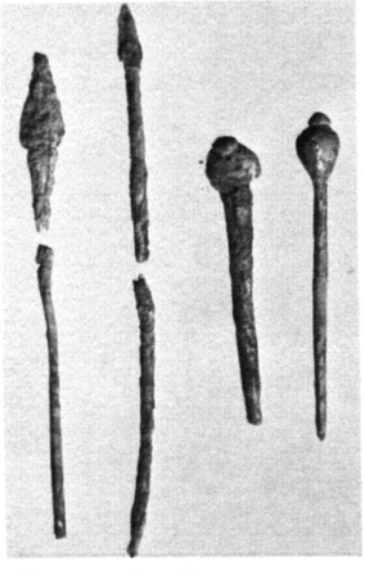
CACHE OF METAL OBJECTS FROM JUDAIDAH JK 3:11 (SEE FIG. 293)



a



b



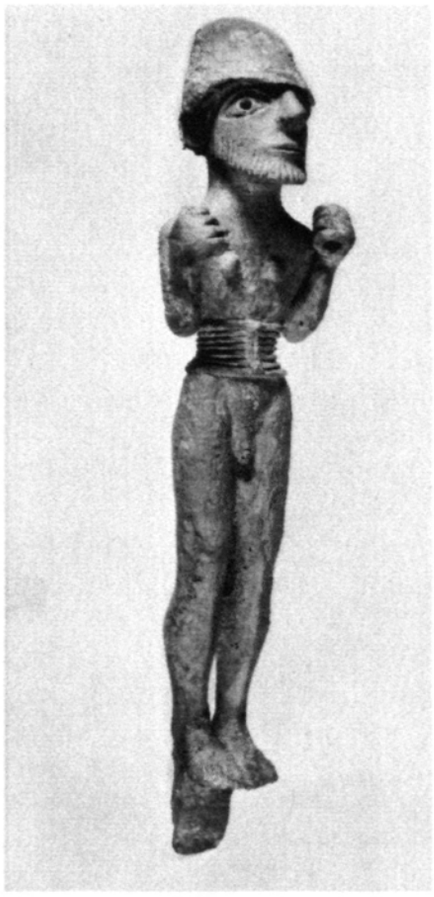
c

d

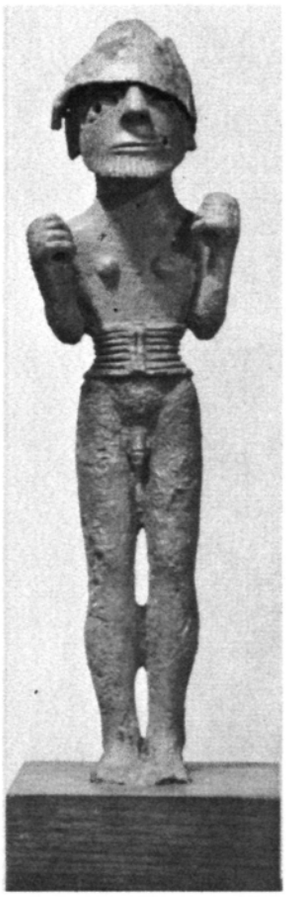
e

f

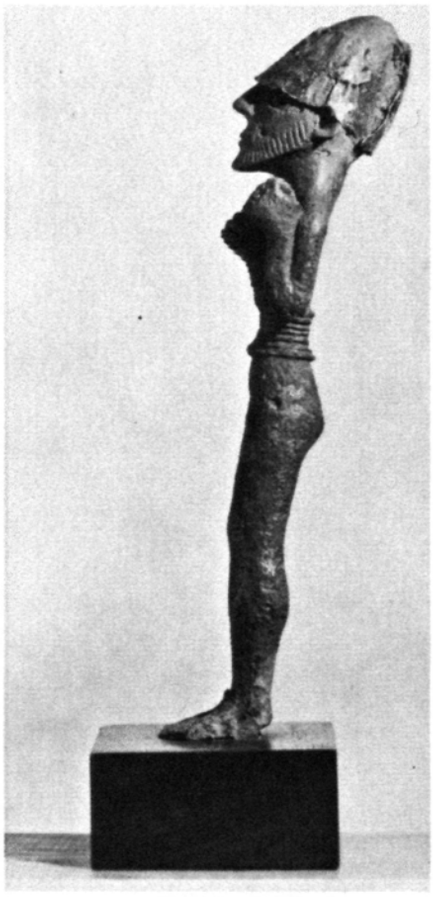
CACHE (x5105) OF METAL FIGURINES, SHOWING (*a*) THE ORIGINAL CLUMP, (*b*) THE SIX FIGURINES, (*c*) MINIATURE WEAPONS (1:2), (*d*) FRAGMENTS OF SILVER-ALLOY ACCESSORIES (3:4), AND (*e–f*) DETAILS OF FIGURINE *C*



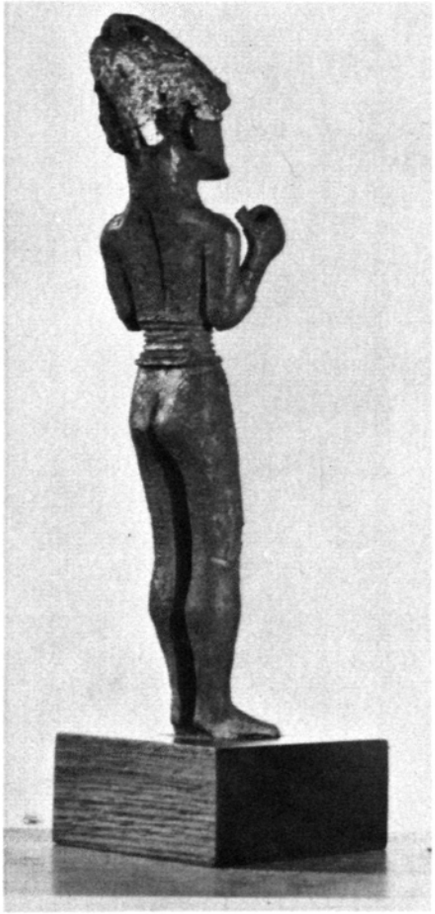
a



b



c

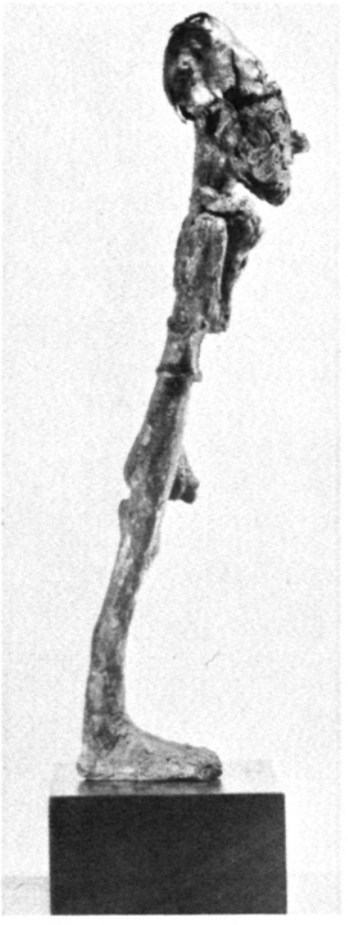


d

e

f

FIGURINE *A*



a

b

c

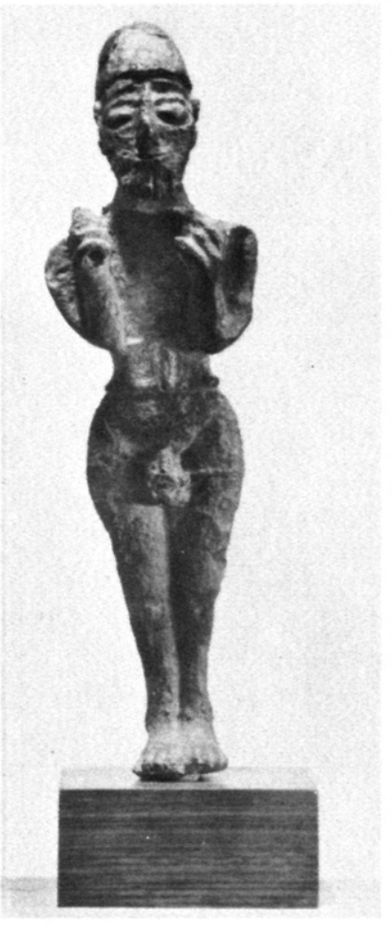
d

e

f

FIGURINE *B*

a



b

c

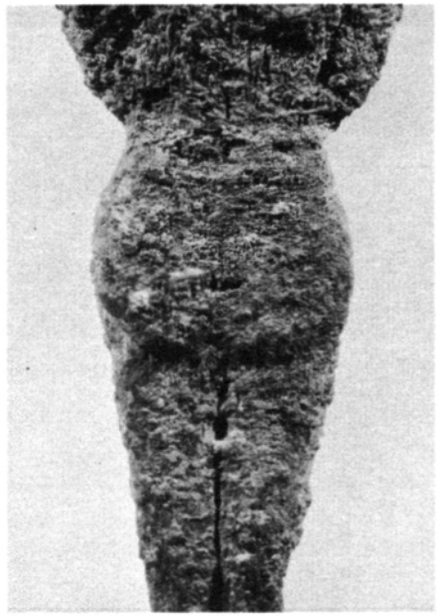
d

e

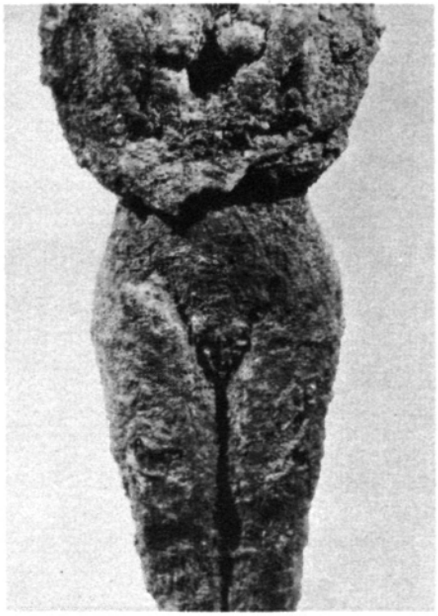
f

FIGURINE *C*

a



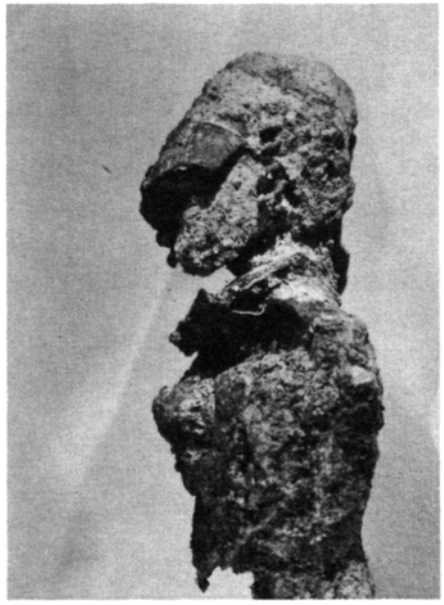
d



e

b

c



f

DETAILS OF FIGURINES *B* (*a–c*) AND *D* (*d–f*) BEFORE CLEANING. NOTE HELMET SPIKE (*a*), TORQUE WITH ONE INTACT LOOPED END (*b–c*), CLOTH IMPRESSIONS (*d–e*), REMAINS OF CAP, COLLAR, AND CURLS (*f*)

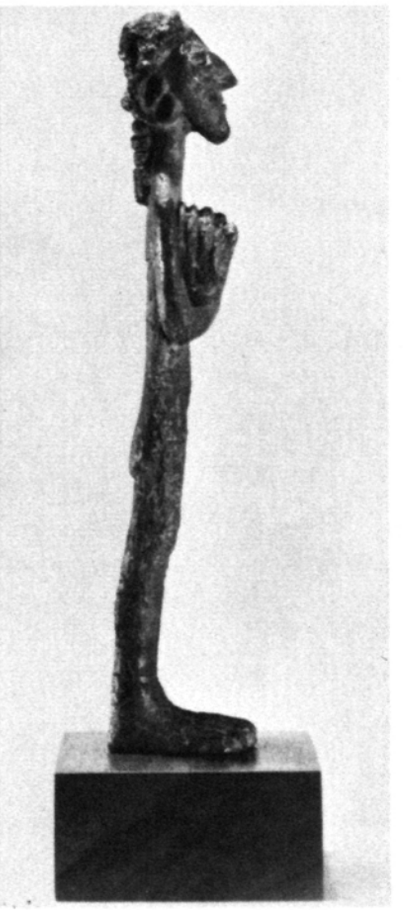
a

b

c

d

e



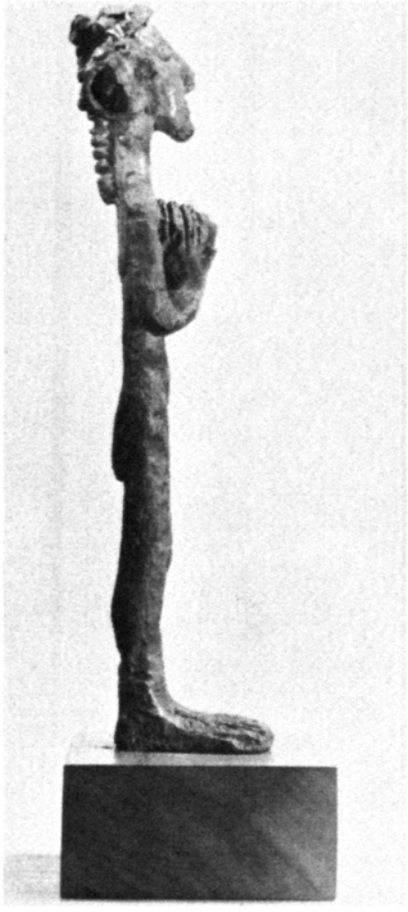
f

FIGURINE *D*

a

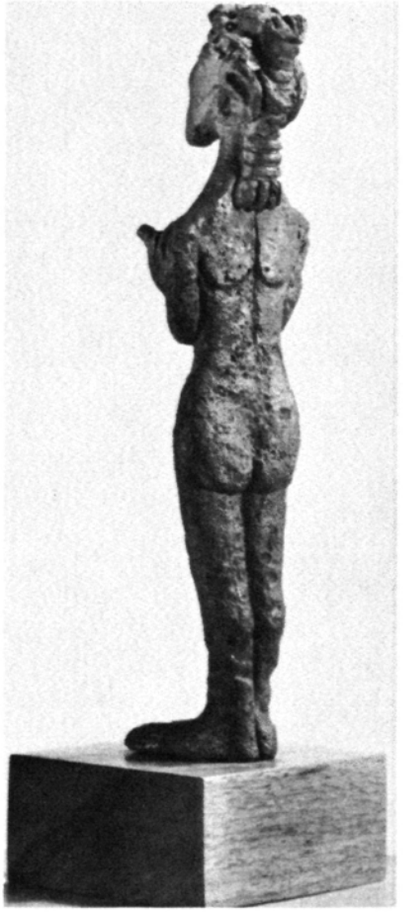
b

c



d

e



f

FIGURINE *E*

a

b

c

d

e

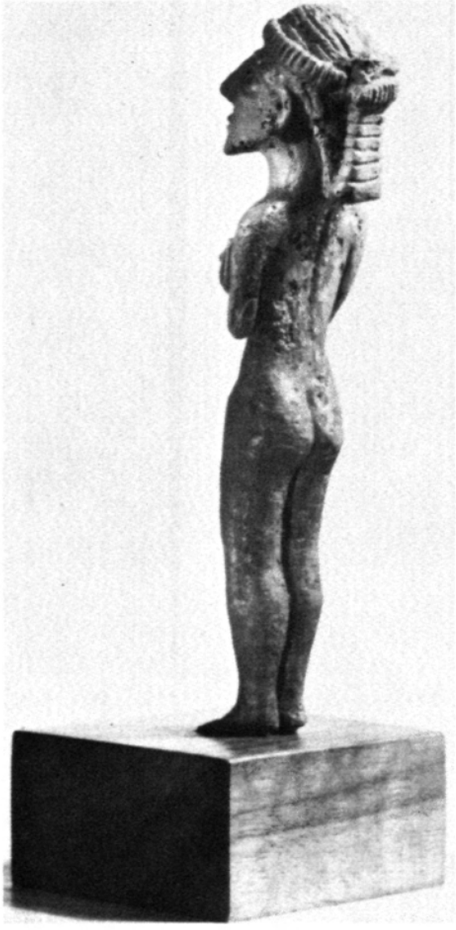
f

DETAILS OF FIGURINE *E*, SHOWING (*a*) BACK OF HEAD WITH REMAINS OF SILVER-ALLOY CAP AND CURLS, (*b*) POSITION OF LOWER COLLAR AS FOUND, (*c*, *e*, *f*) CURLS LOOPED THROUGH HOLES IN CROWNING ROLL, (*d*) HAND

a

b

c

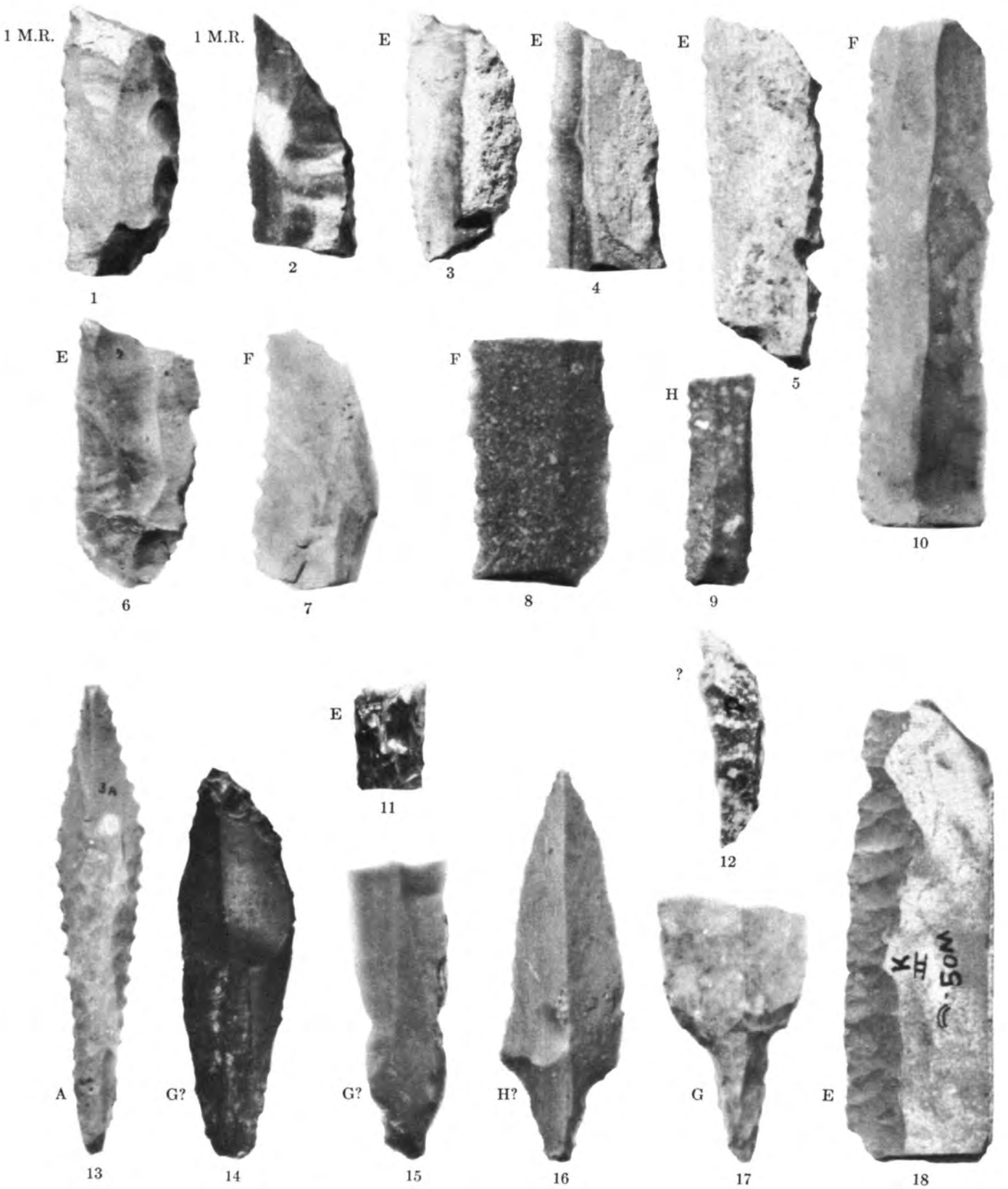


d

e

f

FIGURINE *F*



FLINT (*1–10, 12–18*) AND OBSIDIAN (*11*) ARTIFACTS. ACTUAL SIZE

PLATE 66

H 1 I 2 G 3 G 4 G 5 G 6

FLINTS. ACTUAL SIZE

1

2

3

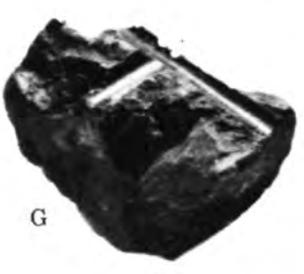
4

5

6

7

8



9

10

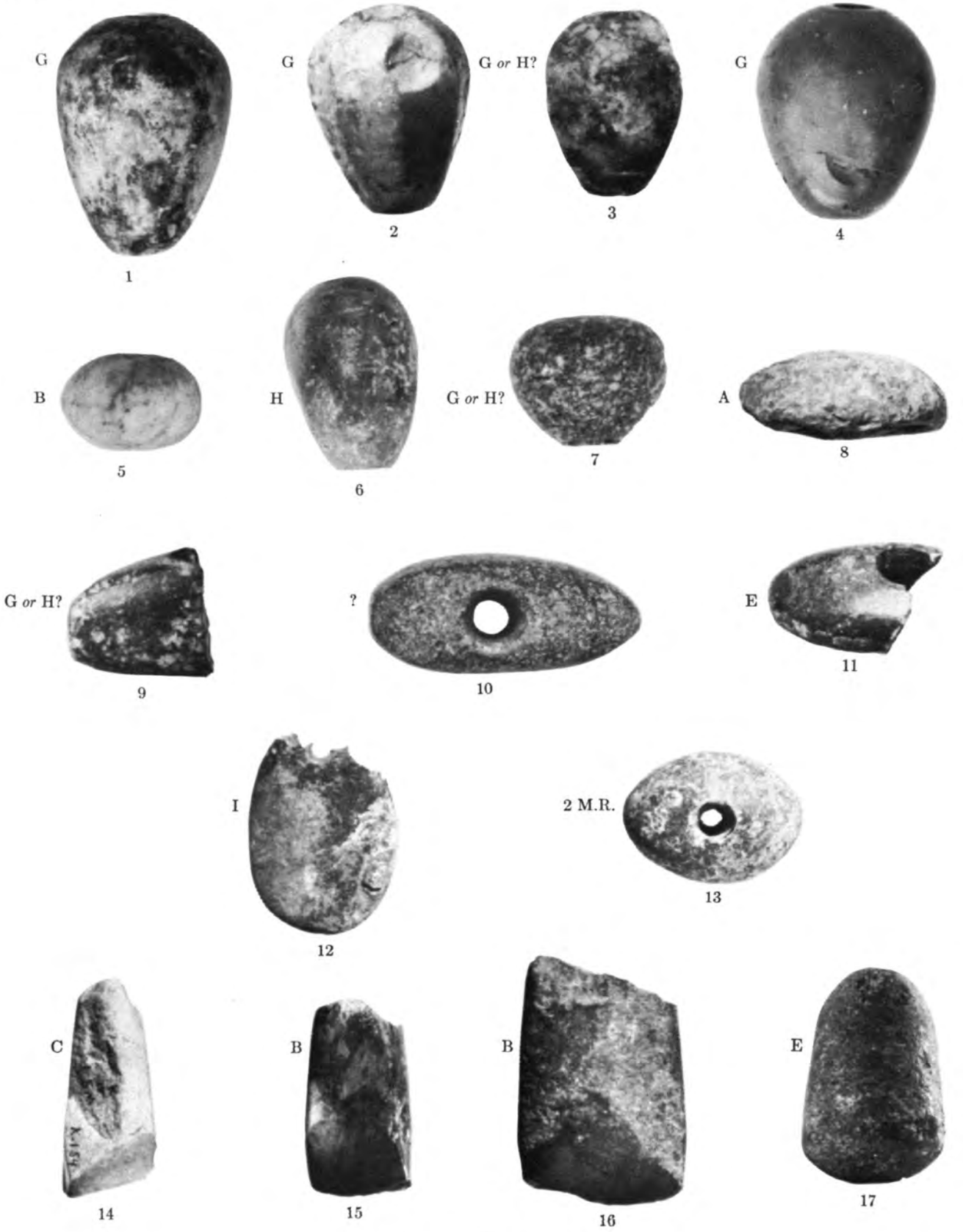
11

12

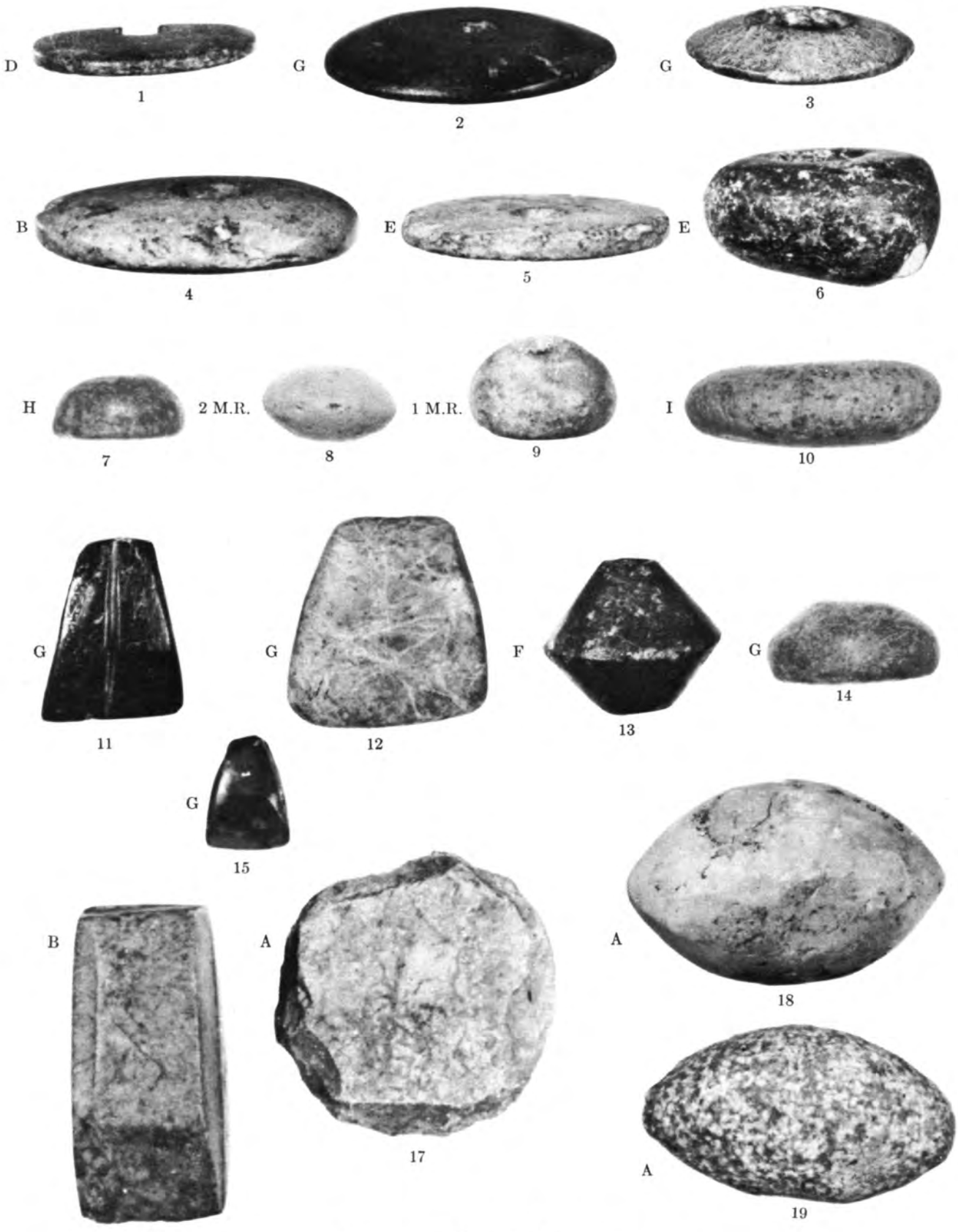
13

GROUND STONE OBJECTS. SCALE, 1:2

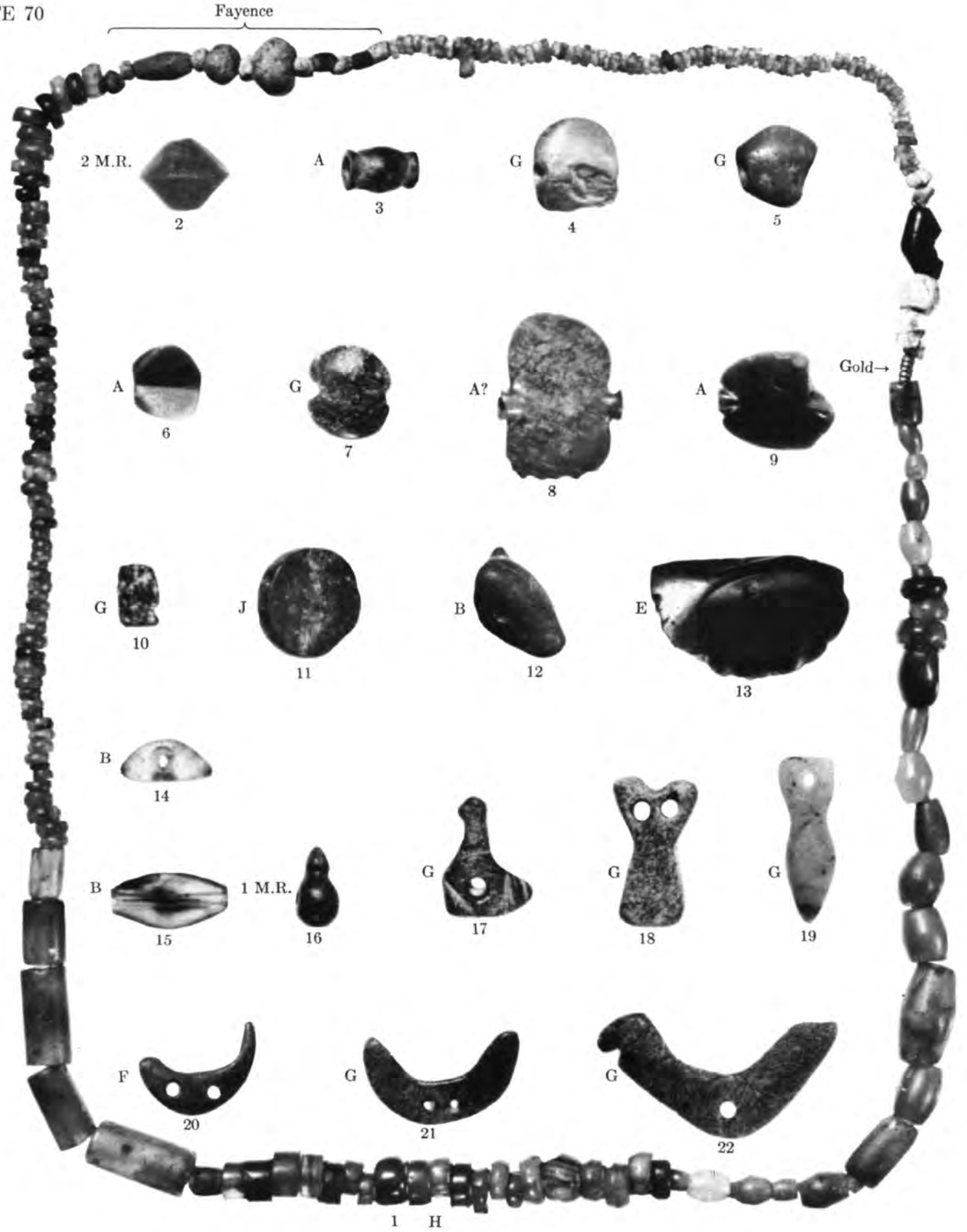
PLATE 68



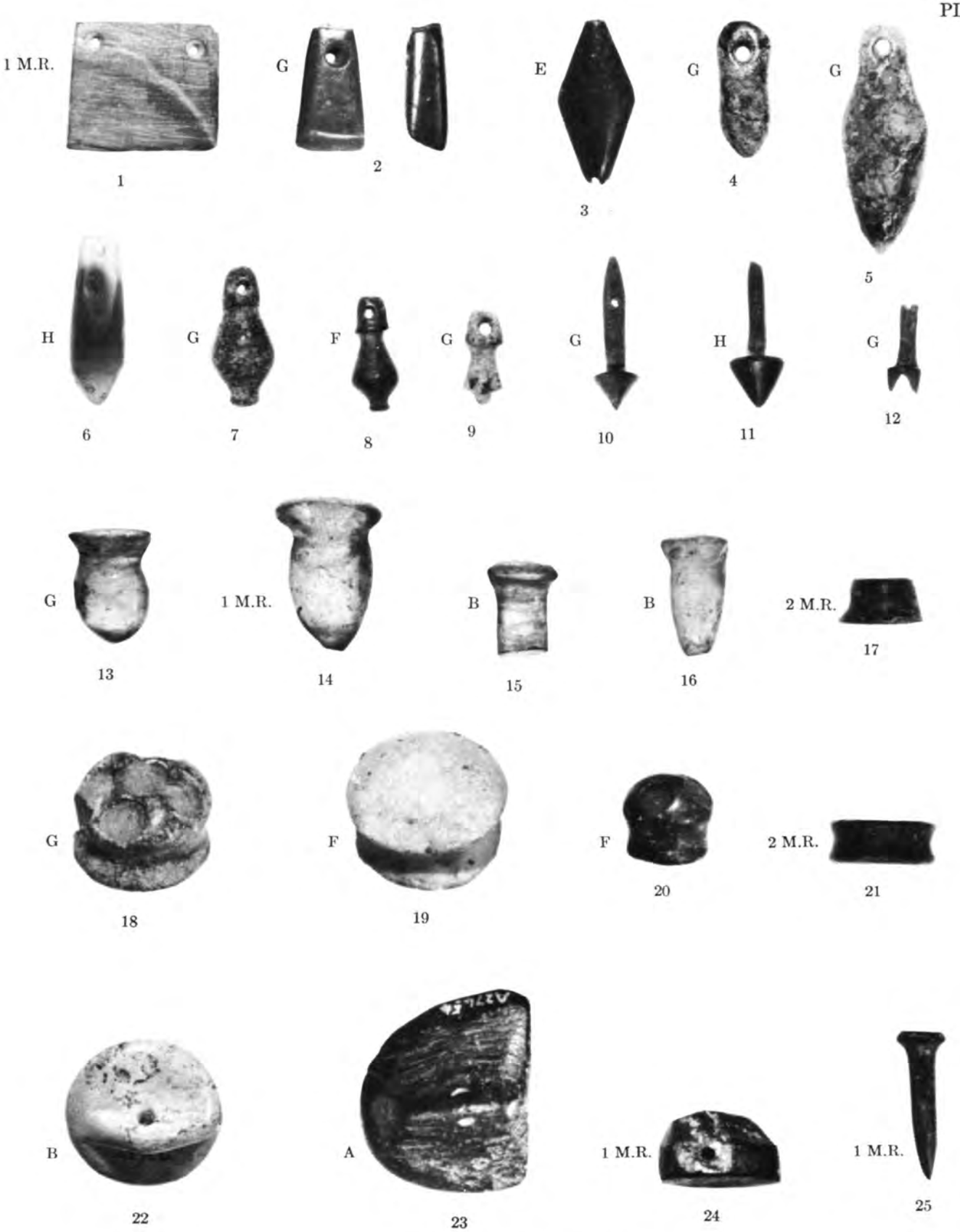
GROUND STONE OBJECTS. SCALE, 1:2



GROUND STONE OBJECTS. ACTUAL SIZE



Beads and Pendants, All of Stone Except Fayence Beads (*at top*) and Gold Bead (*at right*) Included with No. *1*. Actual Size



GROUND STONE OBJECTS. ACTUAL SIZE

PLATE 72

Bone Awls. Actual Size

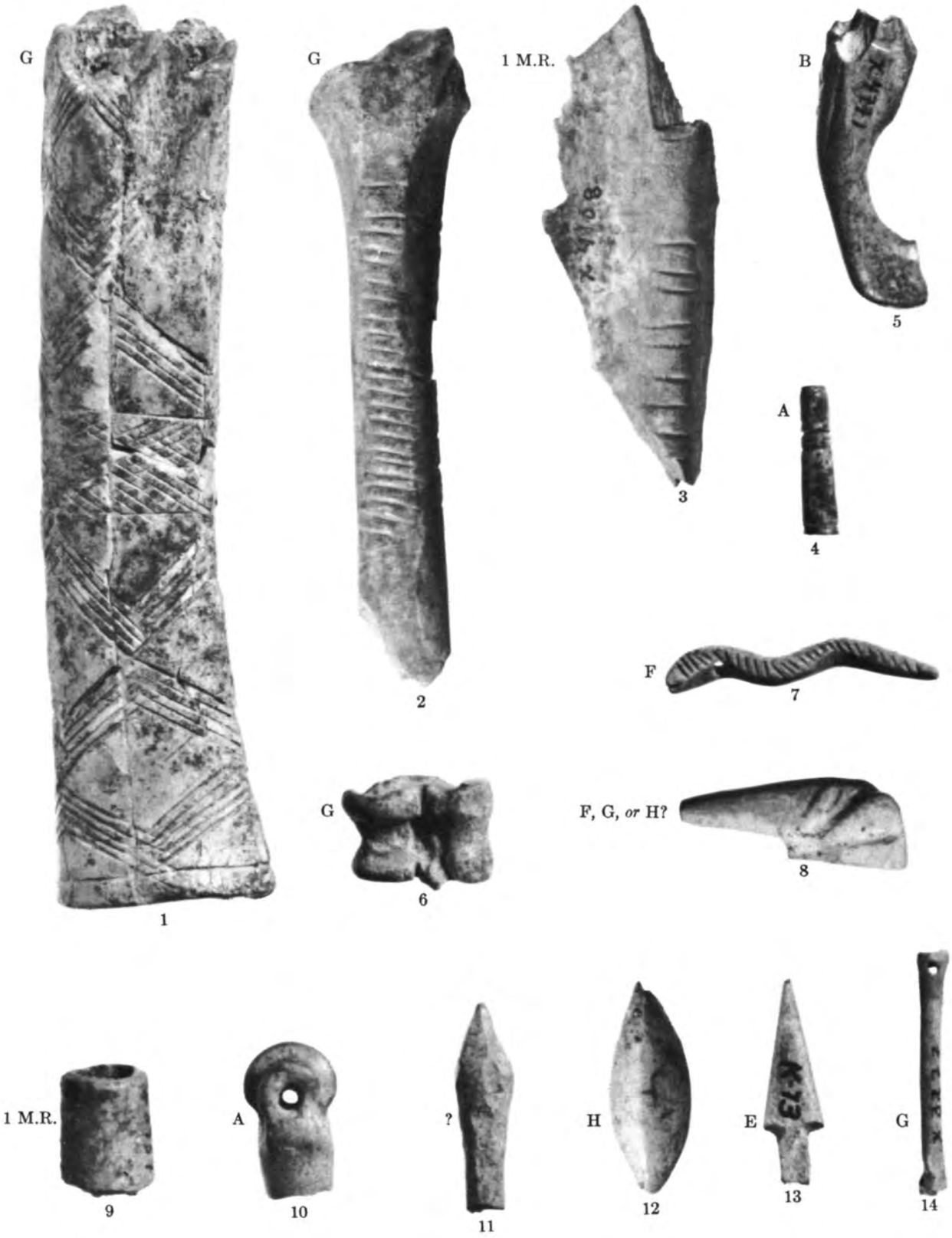
WORKED BONE OBJECTS. ACTUAL SIZE

PLATE 74

Bone Pins. Actual Size

WORKED BONE OBJECTS. ACTUAL SIZE

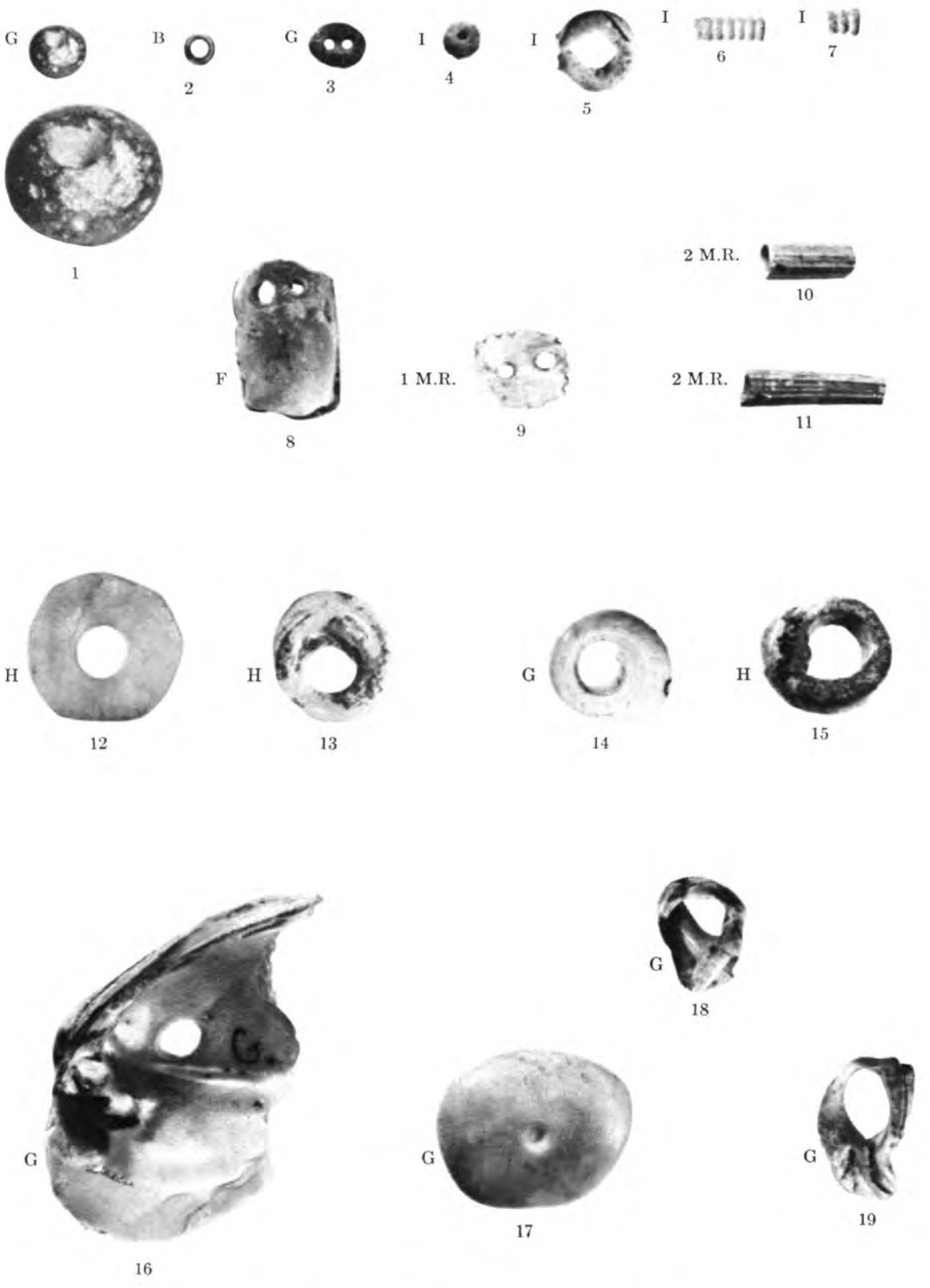
PLATE 76



WORKED BONE OBJECTS. ACTUAL SIZE

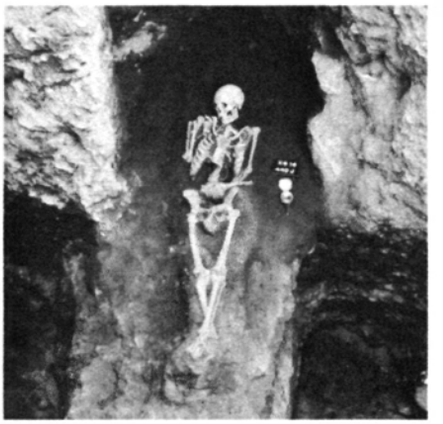
OBJECTS OF HORN. ACTUAL SIZE

PLATE 78



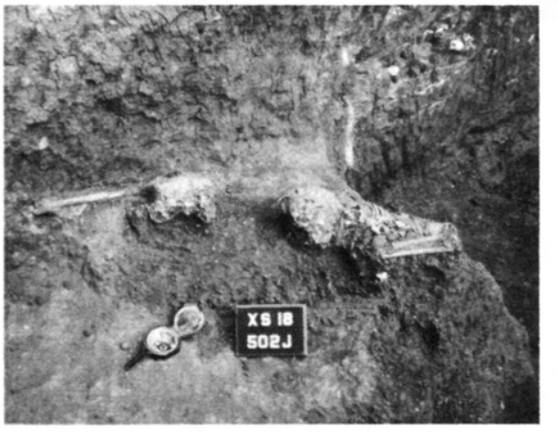
Objects of Glass (*1*), Fayence (*3–7*), and Shell (*2*, *8–19*)
Actual Size (except Lower View of *1*)

A

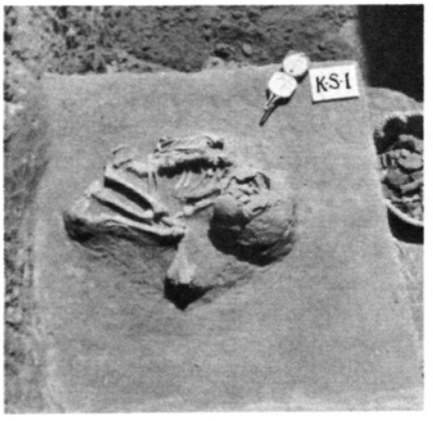


B

C



D



E

F

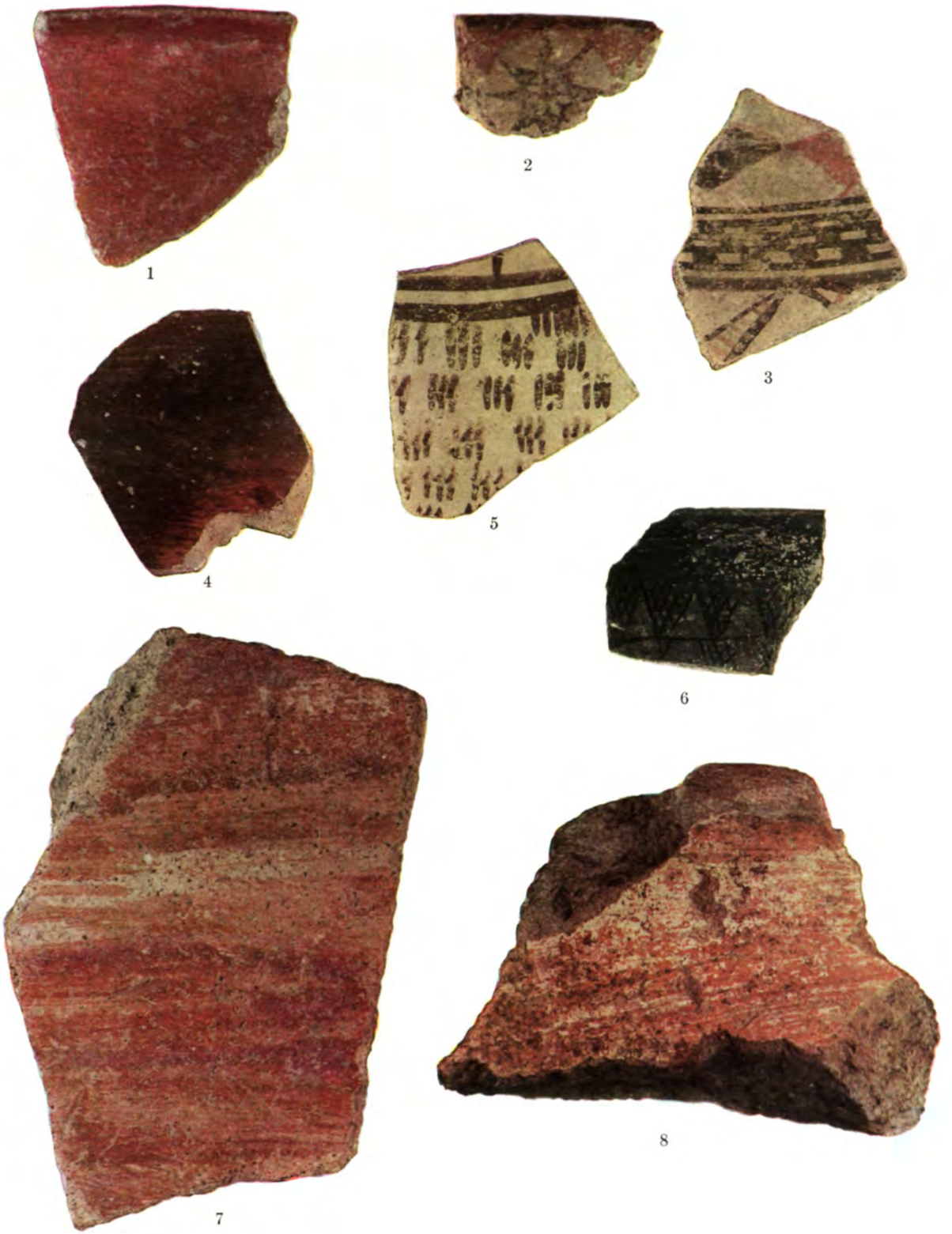
G

H

Burials. *A*. T S 24, Possibly of Phase I or J. *B*. x S 14, Phase G. *C*. x S 16, Phase F. *D*. x S 18–19, First Mixed Range *E*. K S 1, Phase D. *F*. x S 21, Phase B. *G*. x S 20, First Mixed Range. *H*. *Beigaben* (x4913–16) of x S 20

Dark-faced Burnished (*1*, *3*, *5*, *6*), Washed Impressed (*4*), Coarse Incised or Impressed (*7*), Brittle Painted (*2*), Lustrous Red-Film (*8*) Wares. Actual Size

Dark-faced Burnished (*1*, *8*), Dark-faced Unburnished (*2*, *7*), Local Painted (*3*, *5*), Halaf Painted (*4*, *6*) Wares. Actual Size



Dark-faced Burnished (*6*), Wiped-Burnish (*1*, *4*), Red-Wash (*7*), Transitional Monochrome (*5*) and Bichrome (*2–3*) Painted, Red Double-slipped (*8*) Wares. Actual Size

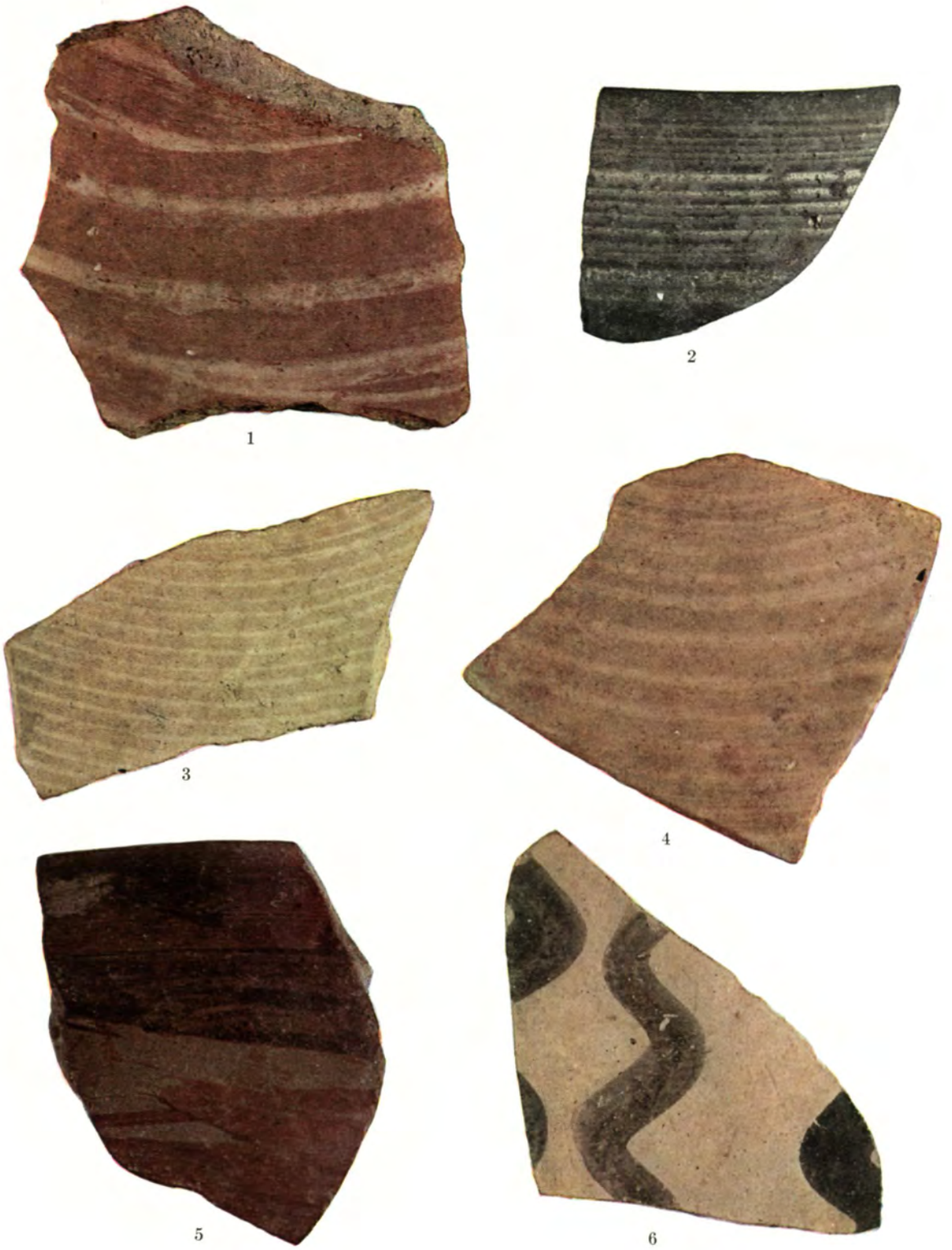
'Ubaid-like Monochrome (*1, 3, 5*) and Bichrome (*2, 4*) Painted Wares. Actual Size

Smooth-faced Simple (*2*), Smooth-faced Red-slipped (*3*), Smooth-faced Painted (*5*), Smooth-faced with Reserved Spiral Decoration (*4*), Chaff-faced Simple (*1, 6*) Wares. Actual Size

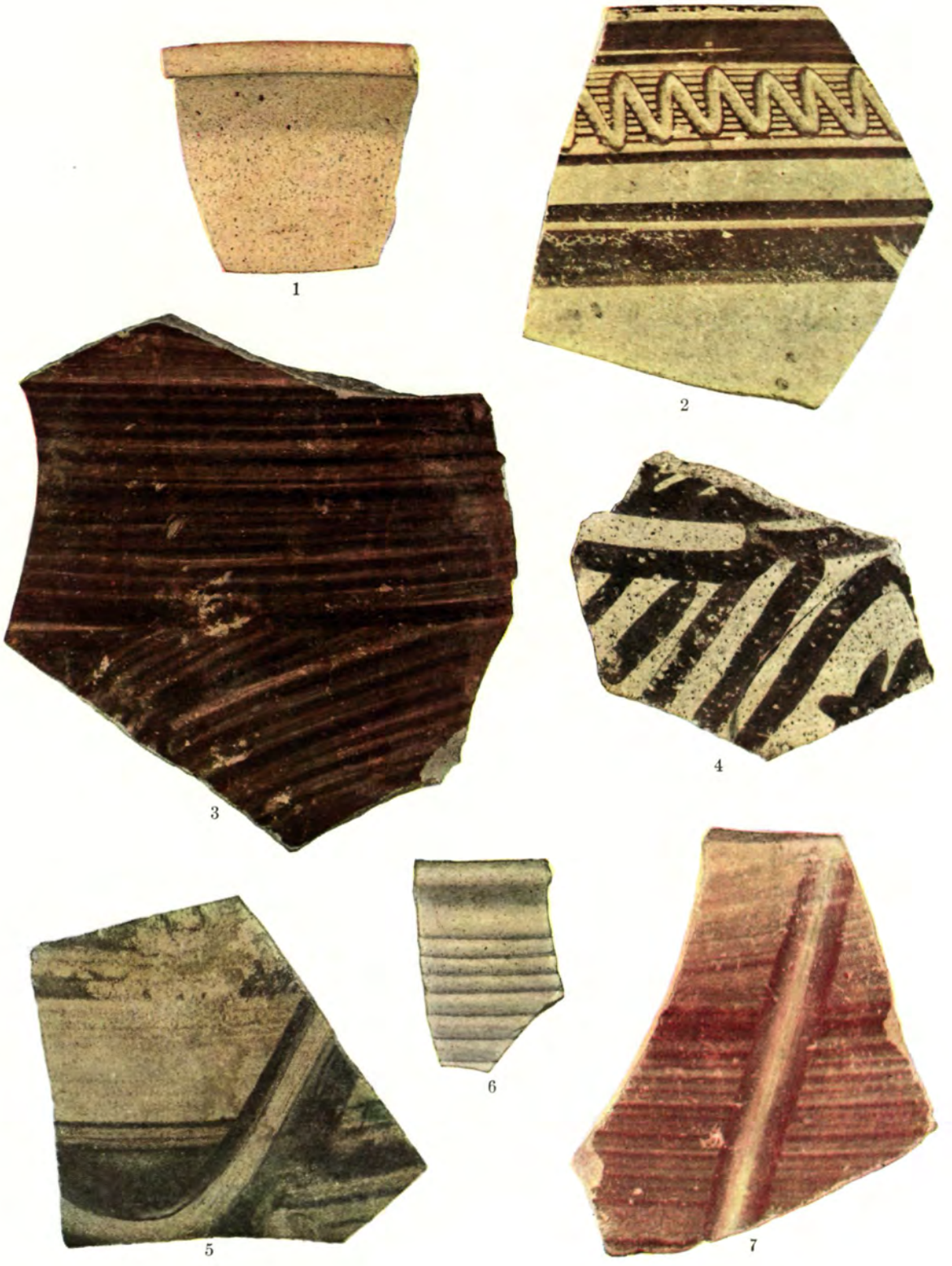
PLAIN SIMPLE (*6*), RESERVED-SLIP (*1*, *7*), INCISED AND IMPRESSED (*3–4*), AND MULTIPLE-BRUSH PAINTED (*2*) WARES, PAINTED WARE NOT DEPENDENT ON MULTIPLE BRUSH (*5*). ACTUAL SIZE

PLAIN SIMPLE (*3*), RED-BLACK BURNISHED (*1, 2, 4, 5*), BRITTLE ORANGE (*6*) WARES. ACTUAL SIZE

RED-BLACK BURNISHED (*4*, *6–8*), BRITTLE ORANGE (*2*), SIMPLE (*1*, *3*, *5*) WARES. ACTUAL SIZE



Reserved-Slip (*1*, *3*, *4*), Painted Simple (*6*), and Smeared-Wash (*5*) Wares, White-on-Black Goblet Sherd (*2*). Actual Size



SIMPLE (*1*, *6*), PAINTED SIMPLE (*2*, *4*), SMEARED-WASH (*3*, *5*, *7*) WARES. ACTUAL SIZE